

TC

824

C2

A2

no. 130:

64

v. 2

appx.

D-E

c. 2



LIBRARY  
UNIVERSITY OF CALIFORNIA  
DAVIS

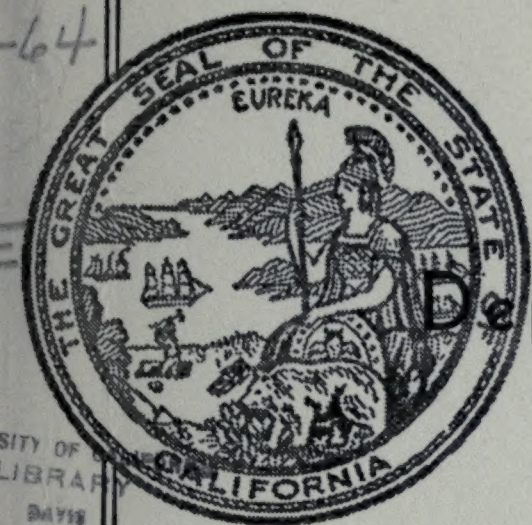












State of California  
THE RESOURCES AGENCY

Department of Water Resources

BULLETIN No. 130-64

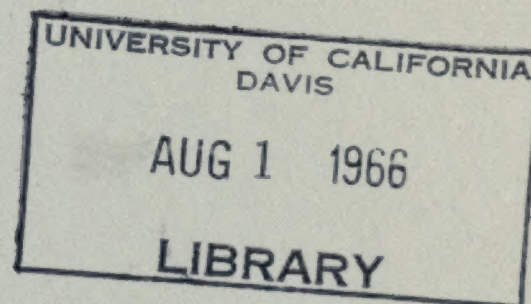
# HYDROLOGIC DATA: 1964

Volume II: NORTHEASTERN CALIFORNIA

Appendix D: SURFACE WATER QUALITY

Appendix E: GROUND WATER QUALITY

JUNE 1966



HUGO FISHER  
*Administrator*  
The Resources Agency

EDMUND G. BROWN  
*Governor*  
State of California

WILLIAM E. WARNE  
*Director*  
Department of Water Resources







State of California  
THE RESOURCES AGENCY  
Department of Water Resources

BULLETIN No. 130-64

HYDROLOGIC DATA: 1964

Volume II: NORTHEASTERN CALIFORNIA

Appendix D: SURFACE WATER QUALITY

Appendix E: GROUND WATER QUALITY

JUNE 1966

HUGO FISHER  
Administrator  
The Resources Agency

EDMUND G. BROWN  
Governor  
State of California

WILLIAM E. WARNE  
Director  
Department of Water Resources

LIBRARY  
UNIVERSITY OF CALIFORNIA  
DAVIS



ORGANIZATION OF BULLETIN NO. 130 SERIES

- Volume I - NORTH COASTAL AREA
- Volume II - NORTHEASTERN CALIFORNIA
- Volume III - CENTRAL COASTAL AREA
- Volume IV - SAN JOAQUIN VALLEY
- Volume V - SOUTHERN CALIFORNIA

Each volume consists of the following:

TEXT and

- Appendix A - CLIMATE
- Appendix B - SURFACE WATER FLOW
- Appendix C - GROUND WATER MEASUREMENTS
- Appendix D - SURFACE WATER QUALITY
- Appendix E - GROUND WATER QUALITY

WILLIAM E. WARNE  
Director  
Department of Water Resources

EDMUND G. BROWN  
Governor  
State of California

HUGO FISHER  
Administrator  
The Resources Agency

UNIVERSITY OF CALIFORNIA  
DAVIS  
LIBRARY







## METRIC CONVERSION TABLE

### ENGLISH UNIT

### EQUIVALENT METRIC UNIT

Inch (in)	2.54	Centimeters
Foot (ft)	0.3048	Meter
Mile (mi)	1.609	Kilometers
Acre	0.405	Hectare
Square mile (sq. mi.)	2.590	Square kilometer
U. S. gallon (gal)	3.785	Liters
Acre foot (acre-ft)	1,233.5	Cubic meters
U. S. gallon per minute (gpm)	0.0631	Liters per second
Cubic feet per second (cfs)	1.7	Cubic meters per minute



## TABLE OF CONTENTS

### APPENDIX D

#### SURFACE WATER QUALITY

	Page
ORGANIZATION OF BULLETIN NO. 130-64 . . . . .	ii
AREA ORIENTATION MAP . . . . .	iii
METRIC CONVERSION TABLE . . . . .	iv
INTRODUCTION . . . . .	3
SPECIFIC CONDUCTANCE . . . . .	4
CHEMICAL ANALYSES . . . . .	5
TRACE METALS . . . . .	7
RADIOACTIVITY . . . . .	8
ORGANIC CHEMICALS . . . . .	9
SALINITY OBSERVATIONS . . . . .	9

#### TABLES

D-1	SAMPLING STATION DATA AND INDEX . . . . .	14
D-2	ANALYSES OF SURFACE WATER . . . . .	19
D-3	TRACE METAL ANALYSES OF SURFACE WATER . . . . .	126
D-4	RADIOASSAYS OF SURFACE WATER . . . . .	128
D-5	ANALYSES OF ORGANIC CHEMICALS IN SURFACE WATER . . . . .	135
D-6	DESCRIPTION OF SALINITY OBSERVATION STATIONS . . . . .	136
D-7	MAXIMUM OBSERVED SALINITY AT BAY AND DELTA STATIONS . . . . .	138
D-8	SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS . . . . .	139



## FIGURES

		Page
D-1	SURFACE WATER QUALITY SAMPLING STATIONS IN SACRAMENTO-SAN JOAQUIN DELTA . . . . .	10
D-2	SURFACE WATER QUALITY SAMPLING STATIONS IN NORTHEASTERN CALIFORNIA . . . . .	11
D-3	AVERAGE DAILY SPECIFIC CONDUCTANCE - SACRAMENTO RIVER AT WALNUT GROVE (Station 98) . . . . .	12
D-4	AVERAGE DAILY SPECIFIC CONDUCTANCE - SAN JOAQUIN RIVER AT VERNALIS (Station 27) . . . . .	13
D-5	LINES OF MAXIMUM ANNUAL SALINITY ENCROACHMENT SACRAMENTO-SAN JOAQUIN DELTA AND UPPER BAYS . . . . .	137

## APPENDIX E

### GROUND WATER QUALITY

	INTRODUCTION . . . . .	147
	INDEX OF MONITORED AREAS . . . . .	150

### TABLES

E-1	MINERAL ANALYSES OF GROUND WATER . . . . .	153
E-2	RADIOASSAYS OF GROUND WATER . . . . .	211
E-3	TRACE ELEMENT ANALYSES OF GROUND WATER . . . . .	219

### FIGURES

E-1	GROUND WATER BASINS IN NORTHEASTERN CALIFORNIA . . . . .	151
-----	--	-----



APPENDIX D  
SURFACE WATER QUALITY







## INTRODUCTION

The Department's Surface Water Quality Data Program provides basic information about chemical, physical, and radiological quality characteristics of the State's surface waters. Data presented in this Appendix relate to Northeastern California as shown on the "Area Orientation Map", all of which lies within the Central Valley (No. 5) and Lahontan (No. 6) Water Quality Control Board Regions.

Figure D-1, "Surface Water Quality Sampling Stations in Sacramento-San Joaquin Delta", and Figure D-2, "Surface Water Quality Sampling Stations in Northeastern California", show the locations of stations that are routinely sampled. Table D-1, "Sampling Station Data and Index", lists pertinent information in addition to the page numbers on which data for each station may be found.



## SPECIFIC CONDUCTANCE

Specific conductance of water is a measure of its capacity to conduct an electrical current. The conductance varies with the concentration of ionized substances in solution, and with the temperature of the water. The nature of the various dissolved substances, their actual and relative concentrations, and the ionic strength of the sample all affect the specific conductance. Observing variations in the conductance of a stream permits a good estimate of changes in dissolved mineral concentration. Specific conductance, as used here, is defined as the reciprocal of the resistance measured between two electrodes one centimeter apart and one square centimeter in cross section. All readings are referenced to 25°C automatically by the measuring instrument.

Specific conductance is recorded continually at a number of key points in the Sacramento-San Joaquin Delta. Monthly plots of the hourly values for each station are published quarterly by the Sacramento District. Figures D-3 and D-4 show graphs of average daily specific conductance for two major Delta inflows. The Vernalis (Station 27) recorder is maintained by the San Joaquin District, and the Walnut Grove (Station 98) recorder by the Sacramento District. Hourly readings are taken from continuous records and averaged by digital computer to arrive at average daily values.



## CHEMICAL ANALYSES

Table D-2 lists results of monthly surface water sample analyses. These data are presented alphabetically by station name as listed in Table D-1, "Sampling Station Data and Index".

The monthly surface water quality sampling program consists of selecting locations to be sampled, collection of samples by Department personnel or cooperators, laboratory analyses by an assigned agency, examination of the data to note trends or significant changes, and publication of the data and findings. Samples are collected at or near tide or stream gaging stations, and sampling is performed in accordance with accepted techniques. Comments on local conditions are noted in field books but are not included in the tabulations.

Table D-2 includes the following items:

Discharge was derived from rating curves for stream gaging stations and represents instantaneous flow at time of sampling.

Temperature of the water was measured in the field at the time of sampling with a standard five-inch thermometer having divisions of one degree Fahrenheit.

Dissolved Oxygen was determined at the time of sampling by the Alsterberg (Azide) modification of the Winkler Method. Percent saturation has been corrected for altitude.

Specific Conductance was measured in the laboratory with a Wheatstone Bridge.

pH was measured both in the field, with a color comparator, and in the laboratory with a line-operated pH meter.



Mineral Constituents were determined in the laboratory in accordance with U. S. Geological Survey Water Supply Paper No. 1454, "Methods for Collection and Analyses of Water Samples". Tabulated values are analytical quantities reported in parts per million (ppm), which is equivalent to milligrams per liter, and computed values for equivalents per million (epm).

Total Dissolved Solids (TDS) concentration was determined from TDS vs Specific Conductance curves when sufficient historical data were available. In May and September TDS was determined gravimetrically and by summation of constituents.

Percent Sodium is the ratio of the sodium concentration to the sum of the concentrations of the cations, all values being expressed in equivalents per million.

Hardness was determined in the laboratory by the EDTA titration method.

Total Hardness was assumed to represent the sum of the concentrations of calcium and magnesium ions, expressed as calcium carbonate.

Noncarbonate Hardness represents any excess of total hardness over total alkalinity.

Turbidity was measured in the laboratory with a line operated Hellige turbidimeter.

Coliform concentration was determined monthly for duplicate grab samples by the multitube fermentation technique. Maximum, minimum, and median values for the year are reported. Bacteriologic determinations were made by the California Department of Public Health's mobile laboratory. Results are expressed as the most probable number (MPN) of coliform



bacteria per milliliter of sample. In view of the rapidity and frequency of change in the density of coliform organisms, numerous samples are necessary before a truly reliable evaluation can be made.

#### TRACE METALS

Trace metal analyses of surface water samples were performed with an emission spectrograph by the U. S. Geological Survey, following the "Concentration Method for the Spectro-Chemical Determination of Minor Elements in Water", as published in U. S. Geological Survey Water Supply Paper 1540-B. Results are reported in parts per billion (ppb), which is equivalent to micrograms per liter, in Table D-3, "Trace Metal Analyses of Surface Water".



## RADIOACTIVITY

Radioassays were performed by the California Department of Public Health in Berkeley. The analytical method used is outlined in Department of Water Resources Bulletin No. 65-61, Volume 1, Part 2, "Quality of Surface Waters in California, 1960-61, Northern and Central California, Appendixes". Three minor deviations employed by the Berkeley laboratory are:

1. Cesium-137 is used instead of Thallium-204 for a reference standard.
2. In preparing the sample, no colloidal graphite suspension is added.
3. Extraneous electrostatic charge is eliminated by burning the membrane filter rather than by adding an anti-static agent.

Results are expressed in terms of activity, measured in micro-microcuries ( $10^{-12}$  curies) per liter, which is equivalent to picocuries per liter. A curie has been fixed by the International Radium Standard Commission as  $3.7 \times 10^{10}$  disintegrations per second. Thus, one curie of an alpha emitter is that quantity which releases  $3.7 \times 10^{10}$  alpha particles per second. The same constant applies to beta particle and gamma ray emission sources. One micromicrocurie per liter of measured alpha activity implies a content of radioactive material sufficient to yield 2.22 alpha particles per minute. The most probable error is reported along with the measured value, and represents the 95 percent confidence limit range for the measurement.

The results of these analyses are listed in Table D-4, "Radioassay of Surface Water".



### ORGANIC CHEMICALS

A program of sampling for organic chemicals was begun in 1962. Analytical results for the 1964 water year are reported in Table D-5, "Analyses of Organic Chemicals in Surface Waters". The organic samples were composited using carbon absorption techniques developed by the U.S. Public Health Service. Results of organic analyses are reported in micrograms per liter. Analytical work for these samples was performed by the California Department of Public Health in Berkeley.

### SALINITY OBSERVATIONS

Table D-6 lists salinity sampling stations within the Sacramento-San Joaquin Delta. Locations are shown on Figure D-5, "Lines of Annual Maximum Salinity Encroachment". The stations are referenced to the Golden Gate as mile zero, proceeding upstream through the bay systems to the Delta area. The salinity samples were taken, when possible, at four-day intervals, one and one-half hours after high-high tide. Concentrations are reported as chloride in parts per million. The farthest point upstream at which 1,000 ppm chloride was detected is represented by the line of salinity encroachment. The lines on Figure D-5 show the 1,000 ppm chloride line for the 1964 water year and others of historical interest. Table D-7 lists the maximum observed chlorides for stations during the 1964 water year and other historical values for these stations. Complete tabulations of salinity observations made for the 1964 water year are given in Table D-8.

The Salinity Observation program is conducted by the Department of Water Resources for the U. S. Bureau of Reclamation under an annual contract.



SURFACE WATER QUALITY  
SAMPLING STATIONS  
CENTRAL VALLEY REGION (NO. 5)

Sta. No.	Station Name
11	Sacramento River at Delta
11a	Cottonwood Creek below North Fork Cottonwood Creek
11b	Cottonwood Creek, South Fork above Cottonwood Creek
12	Sacramento River at Keswick
12b	Cottonwood Creek near Cottonwood
12c	Sacramento River at Bend
12d	Clear Creek near Igo
13	Sacramento River near Hamilton City
13b	Sacramento River at Colusa
13c	Stony Creek at Black Butte Dam Site
13d	Thomes Creek at Paskenta
13e	Elder Creek near Paskenta
13f	Stony Creek near Fruto
14a	Sacramento Slough near Knights Landing
14b	Sacramento River above Colusa Trough
15a	Sacramento River at Toland Landing
15c	Sacramento River near Mallard Slough
15d	R.D. 1000 at Second Bannon Slough
15e	Sacramento River above Sacramento Slough
16	Sacramento River at Rio Vista
16a	Calaveras River at Jenny Lind
16b	Calaveras River near Stockton
16c	Calaveras River below New Hogan Dam
16d	Calaveras River above Hogan Reservoir
17	Pit River near Montgomery Creek
17a	Pit River near Canby
17d	Indian Creek near Crescent Mills
17e	Pit River near Bieber
18	McCloud River above Shasta Lake
18a	Pit River, South Fork near Likely
19	Feather River near Oroville
19a	Feather River, North Fork at Big Bar
19b	Feather River, Middle Fork near Merrimac

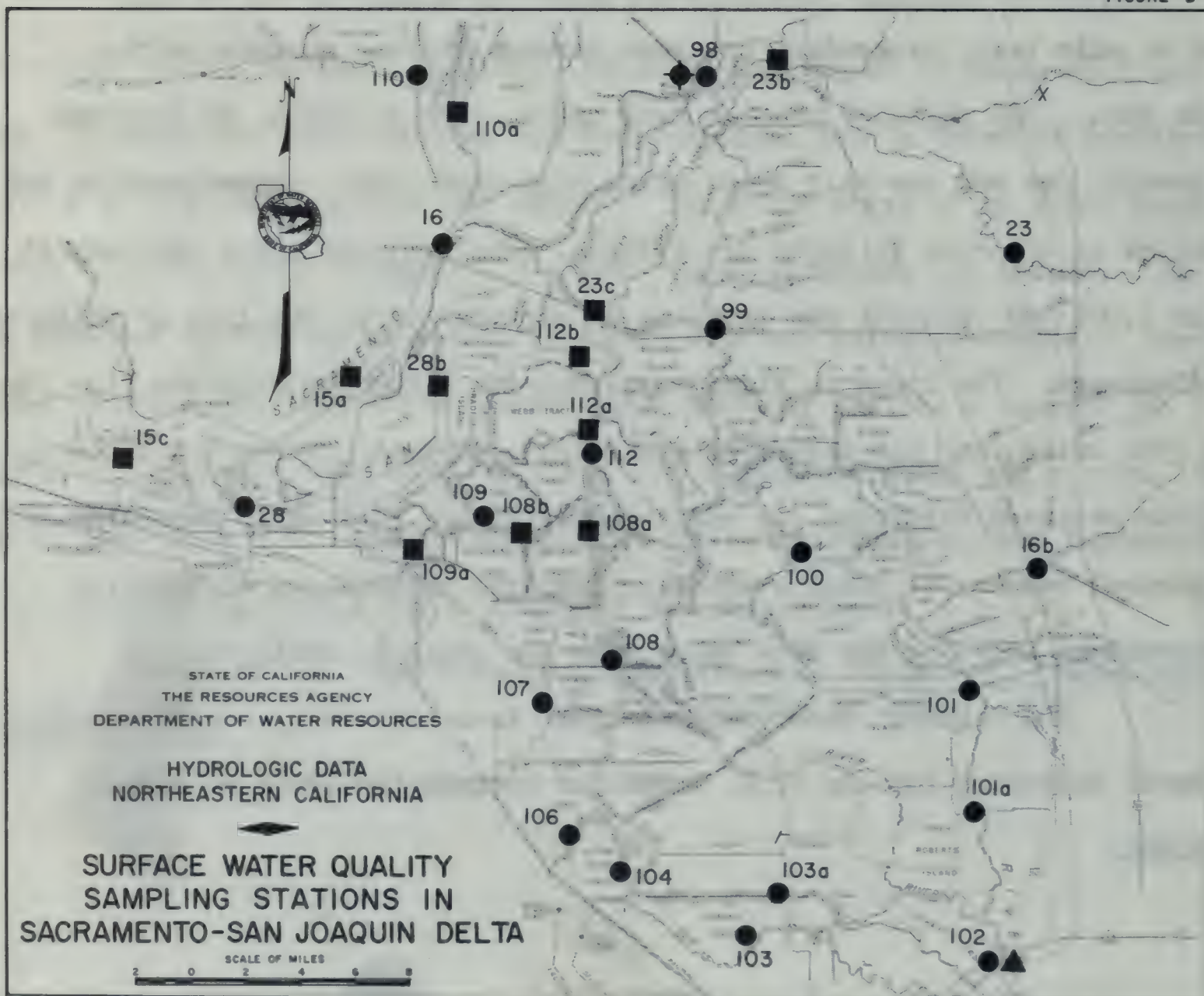
19c	Feather River, South Fork below Ponderosa Dam
20	Feather River at Nicolaus
20a	Feather River below Shanghai Bend
20c	Feather River above Verona
21	Yuba River at Marysville
21a	Yuba River near Smartville
22	American River at Sacramento
22a	American River at Nimbus Dam
22b	American River, Middle Fork near Auburn
22c	American River, South Fork near Lotus
22d	American River at Fair Oaks
23	Mokelumne River at Woodbridge
23a	Mokelumne River near Lancha Plana
23b	Mokelumne River below Cosumnes River
23c	Mokelumne River below Georgiana Slough
27	San Joaquin River near Vernalis
28	San Joaquin River at Antioch
28b	San Joaquin River at Jersey Point
41	Clear Lake at Lakeport
42	Cache Creek near Lower Lake
42a	Cache Creek at Highway 53
78	Bear River near Wheatland
79	Cache Creek, North Fork near Lower Lake
80	Cache Creek near Capay
81	Putah Creek near Winters
81a	Putah Creek at Diversion to Putah South Canal
84	Butte Creek near Chico
85	Big Chico Creek near Chico
85a	Big Chico Creek at Chico
87	Colusa Trough near Colusa
87a	Sacramento River at Butte City
88	Mill Creek near Mouth
88a	Cow Creek near Millville
88b	Battle Creek near Cottonwood
88c	Antelope Creek near Mouth
88d	Redbank Creek near Red Bluff
88e	Antelope Creek near Red Bluff
88g	Paynes Creek near Red Bluff
94a	Cosumnes River at McConnell
94	Cosumnes River near Michigan Bar

95a	Elder Creek at Gerber
95b	Thomes Creek near Mouth
97	Sacramento River at Green's Landing
98	Delta Cross Channel near Walnut Grove
99	Little Potato Slough at Terminous
100	Stockton Ship Channel on Rindge Island
101	San Joaquin River at Garwood Bridge
101a	San Joaquin River at Brandt Bridge
102	San Joaquin River at Mossdale Bridge
103	Old River near Tracy
103a	Grant Line Canal at Tracy Road Bridge
104	Old River at Clifton Court Ferry
106	Italian Slough near Mouth
107	Indian Slough near Brentwood
108	Old River at Orwood Bridge
108a	Old River at Holland Tract
108b	Dutch Slough at Farrar Park Bridge
109	Rock Slough near Knightsen
110	Lindsey Slough near Rio Vista
110a	Cache Slough below Lindsey Slough
112	Old River at Mandeville Island
112a	False River at Webb Pump
112b	San Joaquin River at San Andreas Idg.

LAHONTAN REGION (NO. 6)

17b	Susan River at Susanville
38	Lake Tahoe at Tahoe City
52	Truckee River near Truckee
53	Truckee River near Farad
115	Carson River, East Fork near Markleeville
115a	Carson River, West Fork at Woodfords
116	Walker River, West near Coleville
116a	Walker River, East near Bridgeport

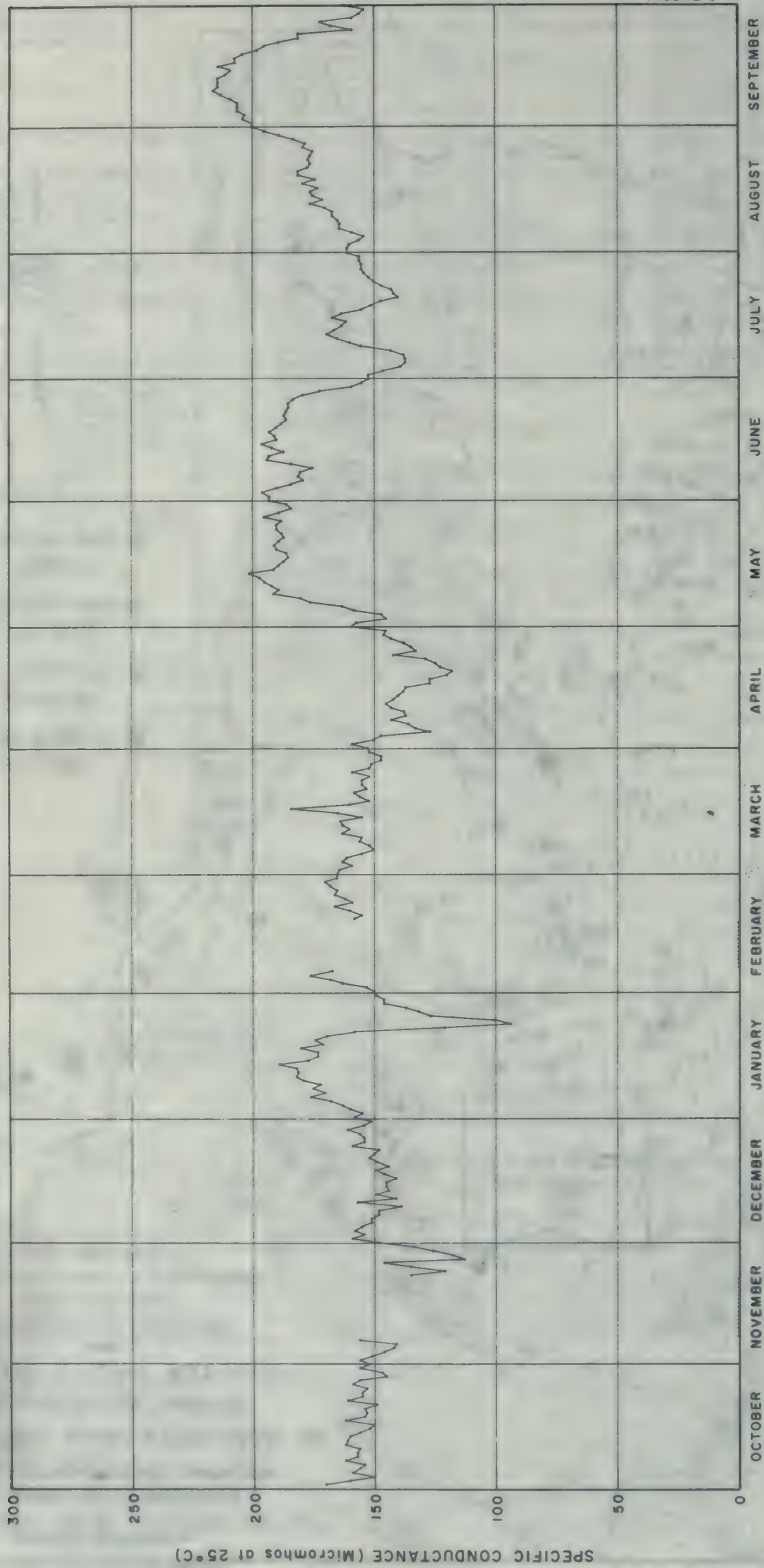
FIGURE D-1







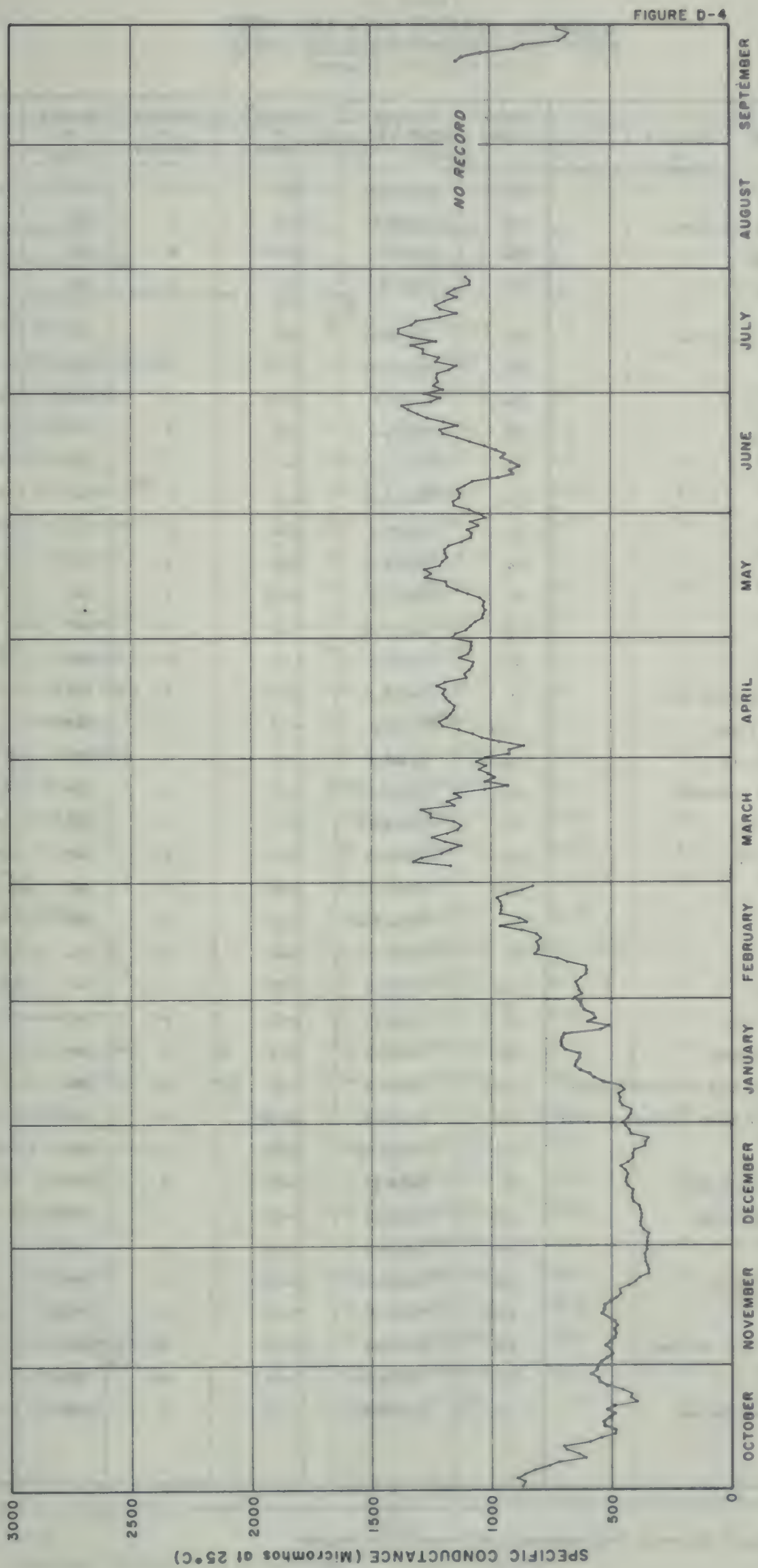




AVERAGE DAILY SPECIFIC CONDUCTANCE - SACRAMENTO RIVER AT WALNUT GROVE (STA. 98)

OCTOBER 1963 THROUGH SEPTEMBER 1964





AVERAGE DAILY SPECIFIC CONDUCTANCE - SAN JOAQUIN RIVER NEAR VERNALIS (STA. 27)

OCTOBER 1963 THROUGH SEPTEMBER 1964



TABLE D-1  
SAMPLING STATION DATA AND INDEX  
CENTRAL VALLEY REGION (NO. 5)

Station	Station Number	Location MDB & M	Period of Record <sup>a</sup>	Frequency of Sampling <sup>b</sup>	Sampled by	Analysis on page
American River at Fair Oaks	22d	9N/6E-13	1-38	I	USBR	19
American River, Middle Fork near Auburn	22b	12N/9E-6	7-58	B	DWR	20, 128
American River at Nimbus Dam	22a	9N/7E-16	11-58	M	DWR	21, 126, 128
American River at Sacramento	22	8N/5E-3	4-51 9-62	M A	DWR DWR	22, 126, 128 135
American River, South Fork near Lotus	22c	11N/9E-11	7-58	B	DWR	23, 128
Antelope Creek near Mouth	88c	26N/2W-17	10-58	M	DWR	24, 128
Antelope Creek near Red Bluff	88e	27N/2W-8	10-58	M	DWR	25, 128
Battle Creek near Cottonwood	88b	29N/2W-6	4-58	M	DWR	26, 128
Bear River near Wheatland	78	13N/5E-3	12-51	M	DWR	27, 126, 128
Big Chico Creek at Chico	85a	22N/1E-28	1-59	M	DWR	28, 128
Big Chico Creek near Chico	85	22N/2E-9	7-52	M	DWR	29
Butte Creek near Chico	84	22N/2E-36	7-52	M	DWR	30
Cache Creek near Capay	80	10N/2W-8	12-51	M	DWR	31, 126, 128
Cache Creek at Highway 53	42a	13N/7W-34	6-52	S	DWR	135
Cache Creek near Lower Lake	42	12N/6W-6	4-51	M	DWR	32, 126, 128
Cache Creek, North Fork near Lower Lake	79	14N/6W-31	12-51	M	DWR	33, 129
Cache Slough below Lindsey Slough	110a	5N/3E-31	4-52	Q	USBR	34
Calaveras River below Hogan Dam	16c	3N/10E-1	1-64	M	CE	35
Calaveras River above Hogan Reservoir	16d	4N/11E-13	1-64	M	CE	36
Calaveras River at Jenny Lind	16a	3N/10E-27	4-51	M	DWR	37, 129
Calaveras River near Stockton	16b	2N/6E-26	7-58	M	DWR	38
Clear Creek near Igo	12d	31N/6W-27	8-58	M	DWR	39, 129
Clear Lake at Lakeport	41	14N/10W-24	4-51	M	DWR	40, 126, 129
Colusa Trough near Colusa	87	16N/2W-35	7-62	M	DWR	41, 129
Cosumnes River at McConnell	94a	6N/6E-20	7-58	B	DWR	42, 129
Cosumnes River at Michigan Bar	94	8N/8E-36	7-52	B	DWR	43, 129
Cottonwood Creek near Cottonwood	12b	29N/3W-7	4-51	M	DWR	44, 129
Cottonwood Creek below North Fork Cottonwood Creek	11a	29N/6W-2	8-58	M	DWR	45, 129
Cottonwood Creek, South Fork above Cottonwood Creek	11b	29N/4W-17	11-58	M	DWR	46
Cow Creek near Millville	88a	31N/3W-32	8-58	M	DWR	47, 129
Delta Cross Channel near Walnut Grove	98	5N/4E-35	9-52	M	DWR	48, 126
Dutch Slough at Farrar Park Bridge	108b	2N/3E-22	5-55	I	USBR	49
Elder Creek at Gerber	95a	25N/3W-2	1-59	M	DWR	50, 129
Elder Creek near Paskenta	13e	25N/6W-14	10-58	M	DWR	51, 129
False River at Webb Pump	112a	3N/3E-36	5-55	I	USBR	52
Feather River, Middle Fork near Merrimac	19b	21N/6E-2	7-63	M	DWR	53, 126, 130
Feather River at Nicolaus	20	12N/3E-12	4-51	M	DWR	54, 126, 130
Feather River, North Fork at Big Bar	19a	23N/5E-32	7-63	M	DWR	55, 130

<sup>a</sup> Beginning of record

<sup>b</sup> M-Monthly, B-Bimonthly, Q-Quarterly, S-Semiannually, A-Annually, I-Irregular



TABLE D-1  
SAMPLING STATION DATA AND INDEX  
CENTRAL VALLEY REGION (NO. 5)

Station	Station Number	Location MDB & M	Period <sup>a</sup> of Record	Frequency <sup>b</sup> of Sampling	Sampled by	Analysis on page
Feather River near Oroville	19	19N/4E-2	4-51	M	DWR	56, 126, 130
Feather River below Shanghai Bend	20a	14N/3E-11	7-58	M	DWR	57, 130
Feather River, South Fork below Ponderosa Dam	19c	20N/6E-33	7-63	M	DWR	58, 130
Feather River above Verona	20c	12N/3E-27	7-62	S	DWR	135
Grant Line Canal at Tracy Road Bridge	103a	1S/5E-29	7-58	M	DWR	59
Indian Creek near Crescent Mills	17d	26N/9E-25	4-51	B	DWR	60, 130
Indian Slough near Brentwood	107	1N/3E-23	9-52	M	DWR	61, 130
Italian Slough near Mouth	106	1S/4E-7	9-52	M	DWR	62, 126, 130
Lindsey Slough near Rio Vista	110	5N/2E-25	10-52	M	DWR	63
Little Potato Slough at Terminus	99	3N/4E-13	9-52	B	DWR	64, 130
McCloud River above Shasta Lake	18	36N/3W-31	4-51	M	DWR	65, 130
Mill Creek near Mouth	88	25N/2W-9	7-52	M	DWR	66
Mokelumne River below Cosumnes River	23b	5N/5E-29	6-52	I	USBR	67
Mokelumne River below Georgiana Slough	23c	3N/4E-7	5-52	I	USBR	68
Mokelumne River near Lancha Plana	23a	4N/10E-4	4-51	B	DWR	69, 126, 131
Mokelumne River at Woodbridge	23	4N/6E-34	4-51	B	DWR	70, 126, 131
Old River at Clifton Court Ferry	104	1S/4E-20	9-52	M	DWR	71, 131
Old River at Holland Tract	108a	2N/4E-19	3-52	M	USBR	72
Old River at Mandeville Island	112	2N/4E-6	12-54	M	DWR	73, 126
Old River at Orwood Bridge	108	1N/4E-17	9-52	M	DWR	74, 131
Old River near Tracy	103	2S/5E-6	10-52	M	DWR	75, 131
Paynes Creek near Red Bluff	88g	28N/2W-3	10-58	M	DWR	76, 131
Pit River near Bieber	17e	37N/7E-34	10-58 to 12-63	M	DWR	77
Pit River near Canby	17a	41N/9E-10	4-51	M	DWR	78, 126, 131
Pit River near Montgomery Creek	17	35N/1E-32	4-51	M	DWR	79, 131
Pit River, South Fork near Likely	18a	39N/13E-11	8-58	M	DWR	80, 131
Putah Creek at Diversion to Putah South Canal	81a	8N/1W-31	7-62	S	DWR	135
Putah Creek near Winters	81	8N/2W-27	12-51	M	DWR	81, 126, 131
R. D. 1000 at Second Bannon Slough	15d	9N/4E-27	9-62	A	DWR	135
Red Bank Creek near Red Bluff	88d	26N/5W-22	1-59	M	DWR	82, 131
Rock Slough near Knightsen	109	2N/3E-33	9-52	M	DWR	83, 131
Sacramento River at Bend	12c	28N/3W-20	5-55	M	DWR	84, 126, 132
Sacramento River at Butte City	87a	19N/1W-32	5-55	M	DWR	85, 132
Sacramento River at Colusa	13b	19N/1W-32	10-58	M	DWR	86, 126, 132
Sacramento River above Colusa Trough	14b	11N/2E-14	7-60	M	DWR	87, 126, 132
Sacramento River at Delta	11	36N/5W-35	4-51	M	DWR	88, 132
Sacramento River at Freeport	15b	7N/4E-14	6-60	M	DWR	89, 127, 132

a Beginning of record

b M-Monthly, B-Bimonthly, Q-Quarterly, S-Semiannually, A-Annually, I-Irregular



TABLE D-1  
SAMPLING STATION DATA AND INDEX  
CENTRAL VALLEY REGION (NO. 5)

Station	Station Number	Location MDB & M	Period of Record <sup>a</sup>	Frequency of Sampling <sup>b</sup>	Sampled by	Analysis on page
Sacramento River near Hamilton City	13	22N/1W-20	4-51	M	DWR	90, 127, 132
Sacramento River at Keswick	12	32N/5W-28	4-51	M	DWR	91, 127, 132
Sacramento River near Mallard Slough	15c	2N/1E-5	3-55	M	USBR	92
Sacramento River at Rio Vista	16	4N/3E-30	4-51	M	DWR	93, 127, 132
Sacramento River above Sacramento Slough	15e	11N/3E-32	7-62	A	DWR	135
Sacramento River at Snodgrass Slough	97	6N/4E-22	6-38	M	USBR	94
Sacramento River at Toland Landing	15a	3N/2E-21	6-52	I	USBR	95, 96, 97, 98
Sacramento River at Walnut Grove		5N/4E-35	12-60	Continuous	DWR	13
Sacramento Slough near Knights Landing	14a	11N/3E-21	6-51	M	DWR	99, 132
San Joaquin River at Antioch	28	2N/2E-18	4-51	M	DWR	100, 133
San Joaquin River at Brandt Bridge	101a	1S/6E-9	3-57	Q	USBR	101
San Joaquin River at Garwood Bridge	101	1N/6E-16	9-52	M	DWR	102
San Joaquin River at Jersey Point	28b	2N/3E-6	7-52	I	USBR	103, 104, 105, 106
San Joaquin River at Mossdale Bridge	102	2N/6E-4	9-52	M	DWR	107, 133, 135
San Joaquin River at San Andreas Landing	112b	3N/3E-13	3-52	M	USBR	108
San Joaquin River near Vernalis	27	3S/6E-13	12-61	Continuous	DWR	12
Stockton Ship Channel on Rindge Island	100	2N/5E-28	9-52	M	DWR	109
Stony Creek below Black Butte Dam	13c	23N/4W-28	8-57	M	DWR	110, 133
Stony Creek near Fruto	13f	21N/6W-15	10-60 to 2-64 3-64	M M	USGS DWR	111, 133
Thomes Creek near Mouth	95b	25N/3W-35	1-59	M	DWR	112, 133
Thomes Creek near Paskenta	13d	23N/6W-4	10-58	M	DWR	113, 133
Yuba River at Marysville	21	15N/4E-18	4-51	B	DWR	114, 147, 133
Yuba River near Smartville	21a	16N/6E-20	4-51	B	DWR	115, 133

<sup>a</sup> Beginning of record

<sup>b</sup> M-Monthly, B-Bimonthly, Q-Quarterly, S-Semiannually, A-Annually, I-Irregular



TABLE D-1  
SAMPLING STATION DATA AND INDEX  
LAHONTAN REGION (NO. 6)

Station	Station Number	Location MOB & M	Period <sup>a</sup> of Record	Frequency <sup>b</sup> of Sampling	Sampled by	Analysis on page
Carson River, East Fork near Markleeville	115	10N/20E-27	9-58	B	DWR	117, 136
Carson River, West Fork at Woodfords	115a	11N/19E-34	8-58	B	DWR	118, 136
Lake Tahoe at Tahoe City	38	15N/17E-7	4-51	B	DWR	119, 127, 136
Susan River at Susanville	17b	30N/12E-31	4-51	M	DWR	120, 136
Truckee River near Farad	53	18N/17E-12	4-51	M	DWR	121, 127, 136
Truckee River near Truckee	52	17N/16E-28	4-51	B	DWR	122, 136
Walker River, East near Bridgeport	116a	6N/25E-34	8-58	B	DWR	123, 136
Walker River, West near Coleville	116	6N/23E-9	8-58	B	DWR	124, 136

<sup>a</sup> Beginning of record

<sup>b</sup> M-Monthly, B-Bimonthly, Q-Quarterly, S-Semiannually, A-Annually, I-Irregular



Table of Contents

Page	Chapter
1	Introduction
15	Chapter I
35	Chapter II
55	Chapter III
75	Chapter IV
95	Chapter V
115	Chapter VI
135	Chapter VII
155	Chapter VIII
175	Chapter IX
195	Chapter X
215	Chapter XI
235	Chapter XII
255	Chapter XIII
275	Chapter XIV
295	Chapter XV
315	Chapter XVI
335	Chapter XVII
355	Chapter XVIII
375	Chapter XIX
395	Chapter XX
415	Chapter XXI
435	Chapter XXII
455	Chapter XXIII
475	Chapter XXIV
495	Chapter XXV
515	Chapter XXVI
535	Chapter XXVII
555	Chapter XXVIII
575	Chapter XXIX
595	Chapter XXX
615	Chapter XXXI
635	Chapter XXXII
655	Chapter XXXIII
675	Chapter XXXIV
695	Chapter XXXV
715	Chapter XXXVI
735	Chapter XXXVII
755	Chapter XXXVIII
775	Chapter XXXIX
795	Chapter XL
815	Chapter XLI
835	Chapter XLII
855	Chapter XLIII
875	Chapter XLIV
895	Chapter XLV
915	Chapter XLVI
935	Chapter XLVII
955	Chapter XLVIII
975	Chapter XLIX
995	Chapter L



TABLE D-2

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	Mineral constituents in equivalents per million											Total dis- solved solids in ppm g	Per- cent sed- ium	Tur- bid- ity in ppm	Coliform # MPN/ml	Analyzed by 1					
			ppm	% Sat		Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)	Boron (B)						Silica (SiO <sub>2</sub> )	Other constituents			
10/3/63 1000		64			59	<u>7.4</u>	<u>5.6</u>	<u>2.6</u>	<u>2.1</u>	<u>0.8</u>	<u>0.0</u>	<u>21</u>	<u>1.2</u>	<u>3.6</u>	<u>0.0</u>				96	15						UEBR
11/1 1300		58			56	<u>7.0</u>	<u>6.4</u>	<u>2.0</u>	<u>1.6</u>	<u>0.8</u>	<u>0.0</u>	<u>27</u>	<u>5.3</u>	<u>2.8</u>	<u>0.0</u>				68	12						
1/3/64 1130		44			61	<u>7.5</u>	<u>7.0</u>	<u>1.8</u>	<u>1.8</u>	<u>0.8</u>	<u>0.0</u>	<u>21</u>	<u>2.9</u>	<u>2.8</u>	<u>0.0</u>				84	13						
4/1 1000		40			65	<u>7.2</u>	<u>8.4</u>	<u>2.6</u>	<u>1.4</u>	<u>0.8</u>	<u>0.0</u>	<u>34</u>	<u>4.3</u>	<u>2.8</u>	<u>0.6</u>				60	8						
7/1 1130		57			58	<u>6.9</u>	<u>6.4</u>	<u>2.0</u>	<u>1.6</u>	<u>0.8</u>	<u>0.0</u>	<u>26</u>	<u>4.3</u>	<u>1.4</u>	<u>0.0</u>				64	12						



TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

AMERICAN RIVER, MIDDLE FORK NEAR AUBURN (STA. 22b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>1</sup>	
																			Total ppm	N.C. ppm				
							Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)								Boron (B)
11/14/63 1030	190	55	10.2	98	87	7.3 7.7	0.68 <sup>c</sup>	3.2 0.14				0 0.00	36 0.59		6.2 0.17		0.0			4	1	Median 2.9	USGS	
1/6/64 1100	294	41	12.8	102	63	7.1 7.8	0.49 <sup>c</sup>	2.4 0.10				0 0.00	27 0.44		4.4 0.12		0.1			2	1	Maximum 6.2		
3/2 0950	771	43	12.3	102	62	7.3 7.9	0.47 <sup>c</sup>	3.6 0.16				0 0.00	27 0.44		3.2 0.11		0.0			2	1	Minimum 0.21		
5/11 0930	1150	45	12.6	106	39	7.1 7.7	4.8 0.24	1.9 0.08	1.0 0.08		0.2 0.01	0 0.00	19 0.31	1.0 0.02	2.2 0.06	0.7 0.01	0.0 0.00		12 0.00	0	2			
7/3 1415	360	74	8.9	106	60	7.3 7.8	0.48 <sup>c</sup>	3.3 0.14				0 0.00	28 0.46		3.0 0.08		0.0			1	3			
9/18 0745	80	66	8.8	90	108	7.3 7.7	12 0.60	4.7 0.20	2.7 0.22		1.4 0.04	0 0.00	46 0.75	7.0 0.15	5.4 0.15	0.9 0.01		0.0	11 0.00	41	3	1		



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
AMERICAN RIVER AT NIMBUS DAM (STA. 22a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH at 25	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub> Total ppm	Tur- bidity in ppm	Coliform MPN/ml	Analyzed by			
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents
10/9/63 0645	2030	63	8.1	84	60	6.9 7.6	0.48 <sup>c</sup>		2.1 0.09		0 0.00	29 0.48		2.6 0.07		0.0			43 <sup>e</sup>	16	24	0	1	Median 6.0	UEGS
11/4 0930	2070	56	8.1	76	91	7.0 7.4	0.74 <sup>c</sup>		2.7 0.12		0 0.00	34 0.56		2.3 0.26		0.0			65 <sup>e</sup>	14	37	9	2	Maximum 62.	
12/6 0740	5060	50	10.1	89	62	7.1 7.6	0.51 <sup>c</sup>		1.9 0.08		0 0.00	28 0.46		1.0 0.03		0.0			44 <sup>e</sup>	14	26	3	10	Minimum 0.62	
1/6/64 0940	1670	47	11.2	95	62	7.1 7.4	0.50 <sup>c</sup>		2.3 0.10		0 0.00	28 0.46		3.8 0.11		0.0			44 <sup>e</sup>	17	25	2	2		
2/7 0725	2100	45	11.7	97	67	7.2 7.8	0.52 <sup>c</sup>		2.7 0.12		0 0.00	30 0.49		2.6 0.07		0.0			48 <sup>e</sup>	19	26	1	2		
3/2 0735	1870	46	12.3	103	71	7.3 7.8	0.57 <sup>c</sup>		3.4 0.15		0 0.00	32 0.52		3.6 0.10		0.0			51 <sup>e</sup>	21	28	2	1		
4/10 0850	1270	54	11.8	110	70	7.5 7.9	0.56 <sup>c</sup>		2.9 0.13		0 0.00	32 0.52		5.0 0.14		0.0			50 <sup>e</sup>	19	28	2	1		
5/4 0800	1220	56	10.9	104	74	7.3 7.5	8.8 0.44	1.9 0.16	2.8 0.12	0.5 0.01	0 0.00	32 0.52	3.0 0.06	5.0 0.14	1.1 0.02	0.0 0.00	12	ABS 0.0 PO <sub>4</sub> 0.00	51 <sup>f</sup> 43 <sup>g</sup>	16	30	4	2		
6/12 0815	1450	58	10.3	101	61	7.3 7.6	0.49 <sup>c</sup>		2.5 0.11		0 0.00	28 0.46		2.0 0.06		0.0			43 <sup>e</sup>	18	24	1	2		
7/7 0800	3240	61	10.0	101	58	7.1 7.8	0.44 <sup>c</sup>		3.0 0.13		0 0.00	28 0.46		1.0 0.03		0.0			41 <sup>e</sup>	23	22	0	1		
8/3 1315	4130	68	9.2	100	55	7.1 7.5	0.44 <sup>c</sup>		2.6 0.11		0 0.00	26 0.43		2.0 0.06		0.0			39 <sup>e</sup>	20	22	1	1		
9/1 1315	2980	66	8.8	94	53	7.1 7.4	6.0 0.30	1.3 0.11	2.4 0.10	0.5 0.01	0 0.00	25 0.41	2.0 0.04	1.4 0.04	0.9 0.01	0.0	11	ABS 0.0 PO <sub>4</sub> 0.00	38 <sup>f</sup> 40 <sup>g</sup>	19	20	0	3		



TABLE D-2

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	Mineral constituents in equivalents per million										Other constituents		Total dis- solved solids in ppm	Per- cent sed- iment	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>					
			ppm	%Sat		Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)	Baron (B)	Silica (SiO <sub>2</sub> )												
																				Total ppm	N.C. ppm								
10/9/64 0810	Not Rated	64	8.3	87	63	7.0 7.2		2.2 0.10															45 <sup>e</sup>	17	25	0	2	Median 6.2	USGS
11/4 0845		55	8.9	84	56	7.1 7.4		2.0 0.09															40 <sup>e</sup>	17	22	1	2	Maximum 23.	
12/6 0840		50	10.6	94	65	7.2 7.5		2.3 0.10															46 <sup>e</sup>	16	26	1	8	Minimum 0.62	
1/6/64 0900		47	11.3	96	65	7.1 7.7		2.5 0.11															46 <sup>e</sup>	18	26	3	2		
2/7 0825		45	11.9	98	70	7.2 7.8		4.5 0.20															50 <sup>e</sup>	27	27	2	2		
3/2 0840		47	11.3	96	73	7.3 7.4		3.6 0.16															52 <sup>e</sup>	22	28	3	2		
4/10 0800		56	10.7	102	74	7.5 7.7		3.4 0.15															53 <sup>e</sup>	21	29	2	2		
5/4 0700		56	11.4	109	72	7.3 7.8		2.8 0.12	0.5 0.01														51 <sup>f</sup> 448	17	28	2	1		
6/12 0730		62	9.8	100	64	7.5 7.7		3.0 0.13															45 <sup>e</sup>	21	25	2	8		
7/7 0700		60	9.8	98	64	7.1 7.8		2.9 0.13															45 <sup>e</sup>	22	23	1	1		
8/3 1415		69	9.8	108	56	7.3 7.4		3.2 0.14															40 <sup>g</sup>	24	22	1	7		
9/1 1430		67	9.6	104	56	7.3 7.4		2.6 0.11	1.2 0.03														42 <sup>f</sup> 408	19	22	1	3		
												ABS 0.0 PO <sub>4</sub> 0.05		ABS 0.0 PO <sub>4</sub> 0.05															



TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

AMERICAN RIVER, SOUTH FORK NEAR LOTUS (STA. 22c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH at 5	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>				
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents			
11/4/63 1145	1190	47	11.4	99	33	7.2 7.0	0.25 <sup>c</sup>	1.6 0.07				0 0.00	14 0.23		2.1 0.06			0.0				12	1	4	Median 6.0	USGS	
1/6/64 1150	1180	42	12.4	100	32	7.0 7.4	0.23 <sup>c</sup>	2.5 0.11				0 0.00	14 0.23		2.8 0.08			0.2				12	1	3	Maximum 62.		
3/2 1045	440	42	12.8	103	80	7.3 7.9	0.63 <sup>c</sup>	4.1 0.18				0 0.00	36 0.59		4.9 0.14			0.0				32	2	2	Minimum 1.3		
5/4 1030	730	50	11.6	105	54	7.3 7.8	5.2 0.26	2.6 0.11	1.9 0.16		0.2 0.01	0 0.00	25 0.41	3.0 0.06	2.2 0.06	0.9 0.01	0.0 0.00		0.0	12	ABS 0.0 PO <sub>4</sub> 0.00	As 0.00	21	1	3		
7/3 1330	778	65	10.0	108	32	7.1 7.6	0.22 <sup>c</sup>	2.2 0.10				0 0.00	15 0.23		0.5 0.01			0.0	0.0			11	0	4			
9/18 0900	729	55	10.5	101	28	7.1 7.1	3.2 0.16	1.7 0.07	0.5 0.04		0.5 0.01	0 0.00	13 0.21	0.0 0.00	0.7 0.02	0.4 0.01		0.0	7.8	ABS 0.0 PO <sub>4</sub> 0.00	As 0.00	10	0	1			



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

ANTELOPE CREEK NEAR MOUTH (STA. 88c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub> Total ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by			
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents
10/10/63 1110	10 est.	62	9.0	93	223	7.4 7.9	1.32 <sup>c</sup> 1.39		1.7 0.74		0 0.00	84 1.38		22 0.62		0.2					36	0	3		USGS
11/7 1140	10 est.	52	10.1	92	155	7.3 7.7	1.12 <sup>c</sup> 1.12		2.9 0.43		0 0.00	64 1.05		8.5 0.24		0.3					28	4	6		
12/5 1045	4 est.	46	11.1	94	193	7.2 8.1	1.52 <sup>c</sup> 1.52		1.1 0.48		0 0.00	96 1.57		2.7 0.27		0.2					24	0	1		
1/2/64 1130	4 est.	46	11.7	99	219	7.4 8.0	1.64 <sup>c</sup> 1.64		1.3 0.57		0 0.00	106 1.74		12 0.34		0.2					26	0	2		
2/5 1320	7 est.	49	11.1	98	170	7.3 8.1	1.36 <sup>c</sup> 1.36		2.9 0.43		0 0.00	90 1.48		7.5 0.21		0.0					24	0	1		
3/13 1130	5 est.	50	11.9	106	193	7.6 8.3	1.60 <sup>c</sup> 1.60		1.1 0.48		2 0.07	103 1.65		8.5 0.24		0.4					23	0	1		
4/6 1425	15 est.	57	11.5	112	183	8.0 7.5	1.18 <sup>c</sup> 1.18		1.3 0.57		0 0.00	88 1.44		12 0.34		0.4					33	0	1		
5/4 1030	15 est.	59	9.7	92	173	7.3 7.1	1.3 0.65	2.7 0.47	1.1 0.48	3.2 0.69	0 0.00	58 0.95	18 0.37	11 0.31	1.2 0.07	0.1 0.01	0.4	31	ARS: 0.0 100 0.270 As 0.01	28	8	1			
6/11 1050	20 est.	63	9.2	96	176	7.4 7.9	1.16 <sup>c</sup> 1.16		1.2 0.52		0 0.00	52 0.97		11 0.31		0.3					31	10	15		
7/8 1210	5 est.	76	7.6	91	209	7.4 8.2	1.26 <sup>c</sup> 1.26		1.5 0.65		0 0.00	67 1.10		15 0.42		0.4					34	8	8		
8/3 1255	1.0 est.	79	6.0	74	322	7.3 8.3	2.24 <sup>c</sup> 2.24		2.1 0.91		2 0.07	138 2.26		21 0.59		0.6					29	0	1		
9/3 1440	15 est.	70	8.8	99	209	7.7 7.4	1.2 0.75	0.2 0.51	1.6 0.70	2.3 0.68	0 0.00	78 1.38	13 0.27	18 0.51	1.3 0.02	0.4	37	ARS: 0.0 100 0.15 As 0.02	34	0	4				



TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

ANTELOPE CREEK NEAR RED BLUFF (STA. 85e)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform MPN/ml	Analyzed by	
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents
10/10/53 1035	39	62	10.3	106	154	8.1 7.9	1.10 <sup>c</sup>		1.2 0.40		0 0.00	83 1.36		8.2 0.23		0.0				55	0	1	USGS	
11/7 1110	94	52	11.3	103	127	7.7 7.8	0.99 <sup>c</sup>		7.0 0.30		0 0.00	66 1.08		5.0 0.14		0.1				50	0	7		
12/5 1125	49	45	12.7	106	151	7.8 8.1	1.12 <sup>c</sup>		9.2 0.40		0 0.00	80 1.31		8.8 0.25		0.1				56	0	1		
1/2/64 1240	48	47	12.7	109	155	7.8 8.3	1.16 <sup>c</sup>		9.9 0.43		1 0.03	80 1.31		9.0 0.25		0.0				58	0	2		
2/5 1250	75	48	12.2	106	129	7.6 8.3	0.98 <sup>c</sup>		8.1 0.35		1 0.03	68 1.11		6.5 0.18		0.0				49	0	1		
3/13 1100	77	49	11.9	105	133	7.7 8.3	1.00 <sup>c</sup>		8.0 0.35		1 0.03	72 1.18		5.2 0.15		0.1				50	0	0		
4/9 1145	69	60	10.6	107	131	8.1 8.2	1.00 <sup>c</sup>		8.8 0.38		0 0.00	72 1.18		8.0 0.23		0.1				50	0	1		
5/4 1200	76	57	11.0	107	113	8.2 8.2	8.8 0.44	5.1 0.42	7.1 0.31	1.1 0.03	0 0.00	62 1.02	1.0 0.02	6.0 0.17	0.7 0.01	0.1 0.01	31	ABS 0.0 PO <sub>4</sub> 0.00 As 0.00	90 <sup>f</sup>	43	0	1		
6/11 1115	64	66	10.7	115	122	8.2 8.1	0.92 <sup>c</sup>		7.8 0.34		0 0.00	67 1.10		3.0 0.08		0.1				46	0	1		
7/8 1255	36	78	9.1	111	156	8.4 8.4	1.10 <sup>c</sup>		11 0.48		1 0.03	81 1.33		8.5 0.24		0.2				55	0	1		
8/3 1220	30	78	10.3	125	165	8.4 8.6	1.20 <sup>c</sup>		12 0.52		6 0.20	77 1.26		10 0.28		0.2				60	0	2		
9/3 1545	36	71	10.2	116	162	8.3 8.2	1.2 0.60	7.1 0.58	11 0.48	1.3 0.03	0 0.00	86 1.41	0.0 0.00	8.4 0.24	1.2 0.02	0.1	35	ABS 0.0 PO <sub>4</sub> 0.00 As 0.00	120 <sup>f</sup>	59	0	1		



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
BATTLE CREEK NEAR COTTONWOOD (STA. 88b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH $\frac{a}{b}$	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform MPN/ml	Analyzed by			
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents		
10/10/63 0910	278	57	10.3	100	138	7.6 8.0	1.12 <sup>c</sup>		7.6 0.33			0 0.00	86 1.41								56	0	1			USGS
11/7 1445	420	50	11.0	98	125	7.6 8.0	0.88 <sup>c</sup>		7.0 0.30			0 0.00	72 1.18								44	0	15			
12/5 1405	322	48	12.1	105	137	7.7 8.0	1.04 <sup>c</sup>		8.0 0.35			0 0.00	80 1.31								52	0	1			
1/2/64 1025	318	48	11.9	103	137	7.5 8.2	1.04 <sup>c</sup>		8.0 0.35			0 0.00	82 1.34								52	0	2			
2/6 0945	370	45	12.6	105	130	7.5 8.2	1.00 <sup>c</sup>		8.5 0.37			0 0.00	75 1.23								50	0	2			
3/12 1410	345	47	12.4	106	139	7.9 8.3	0.98 <sup>c</sup>		8.6 0.37			2 0.07	78 1.28								49	0	1			
4/9 1000	426	54	11.0	103	124	7.8 8.2	0.96 <sup>c</sup>		7.5 0.33			0 0.00	70 1.15								48	0	2			
5/7 1135	365	55	11.0	104	122	7.9 8.0	1.1 0.55	5.2 0.43	6.9 0.30	1.8 0.05	0 0.00	71 1.16	3.0 0.06	3.2 0.09	1.0 0.02	0.0 0.00		0.1 0.10	43	ABS 0.0 PO <sub>4</sub> 0.10 As 0.00	49	0	2			
6/11 0925	390	57	10.5	102	114	7.6 7.9	0.90 <sup>c</sup>		7.0 0.30			0 0.00	66 1.08								45	0	3			
7/9 1055	240	65	9.9	105	142	8.0 8.3	1.08 <sup>c</sup>		8.2 0.36			1 0.03	81 1.33								54	0	2			
8/3 0905	190	63	9.9	103	154	7.9 8.5	1.20 <sup>c</sup>		9.0 0.39			4 0.13	84 1.38								60	0	1			
9/4 1400	204	63	10.1	105	150	7.7 8.3	1.1 0.55	7.7 0.63	8.3 0.36	3.1 0.08	1 0.03	86 1.41	2.0 0.04	2.1 0.06	0.8 0.01		0.1 0.10	46	ABS 0.0 PO <sub>4</sub> 0.20 As 0.00	59	0	3				



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
BEAR RIVER NEAR WHEATLAND (STA. 78)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Specific conductance (micromhos at 25°C)		Mineral constituents in equivalents per million											Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>					
			Dissolved oxygen	%Sat	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)			Silica (SiO <sub>2</sub> )	Other constituents								
																							ppm	a/b			
10/9/63 0925	0.8	66	342	89	8.3	8.2 8.1	3.20 <sup>c</sup>		7.4 0.32		0 0.00	144 2.36		7.4 0.42			0.0				217 <sup>e</sup>	9	160	42	2	Median 6.2	USGS
11/7 1400	264	58	211	99	10.1	7.8 8.1	1.82 <sup>c</sup>		5.7 0.25		0 0.00	93 1.52		9.2 0.26			0.0				134 <sup>e</sup>	12	91	15	49	Maximum 230.	
12/5 0800	18	46	175	92	11.0	7.4 7.9	1.58 <sup>c</sup>		4.6 0.20		0 0.00	74 1.21		4.0 0.11			0.0				111 <sup>e</sup>	11	79	18	25	Minimum 0.23	
1/7/64 0810	3.8	47	218	99	11.7	7.6 8.3	1.98 <sup>c</sup>		4.9 0.21		1 1.43	87 0.18		6.5 0.18			0.0				138 <sup>e</sup>	10	99	26	1		
2/6 0820	448	42	88	97	12.3	7.2 7.9	0.68 <sup>c</sup>		3.2 0.14		0 0.00	30 0.49		2.2 0.06			0.1				56 <sup>e</sup>	17	34	9	20		
3/3 0805	14	44	172	88	10.8	7.7 8.1	1.96 <sup>c</sup>		4.0 0.17		0 0.00	82 1.34		5.0 0.14			0.0				109 <sup>e</sup>	8	98	31	20		
4/9 0845	375	51	109	104	11.6	7.5 7.9	0.88 <sup>c</sup>		3.6 0.16		0 0.00	46 0.75		1.0 0.03			0.0				69 <sup>e</sup>	15	44	6	2		
5/5 0830	22	57	182	92	9.5	7.5 8.0	1.8 0.90	8.5 0.70	4.6 0.20	0.6 0.02	0 0.00	74 1.21	21 0.44	7.2 0.20	1.4 0.02	0.1 0.01	0.0	15	ABS 0.0 As 0.00 PO <sub>4</sub> 0.00	112 <sup>f</sup> 111 <sup>g</sup>	11	80	19	4			
6/10 0750	25	60	185	94	9.4	7.3 8.1	1.62 <sup>c</sup>		5.1 0.22		0 0.00	77 1.26		5.0 0.14			0.0				117 <sup>e</sup>	12	81	18	4		
7/10 0745	17	73	202	86	7.5	7.3 7.8	1.78 <sup>c</sup>		5.5 0.24		0 0.00	90 1.48		10 0.28			0.0				128 <sup>e</sup>	12	89	15	5		
8/7 0800	16	75	199	80	6.5	7.3 8.1	1.80 <sup>c</sup>		6.0 0.26		0 0.00	88 1.44		8.0 0.23			0.0				126 <sup>e</sup>	13	90	18	120		
9/4. 0745	11	69	267	84	7.6	7.3 8.2	28 1.40	14 1.12	6.7 0.29	0.5 0.01	0 0.00	120 1.97	25 0.52	9.5 0.27	0.4 0.01		0.0	18	ABS 0.1 As 0.00 PO <sub>4</sub> 0.05	161 <sup>f</sup> 166 <sup>g</sup>	10	126	28	9			



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
BIG CHICO CREEK AT CHICO (STA. 8<sup>5</sup><sub>5</sub>)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	Mineral constituents in parts per million										Other constituents		Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>1</sup>
			ppm	%Sat		Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)	Silica (SiO <sub>2</sub> )			Total ppm	N.C. ppm			
10/2/63 1300	8.7	65	10.1	108	8.0 8.3	1.48 <sup>c</sup> 1.48	1.3 0.57		2 0.07	106 1.74		11 0.31			0.1			74	0	1		USGS		
11/4 1500	31	54	10.3	97	7.6 7.6	1.50 <sup>c</sup> 1.50	1.3 0.57		0 0.00	106 1.74		12 0.34			0.3			75	0	15				
12/2 1630	33	46	11.8	100	7.5 8.1	1.24 <sup>c</sup> 1.24	11 0.48		0 0.00	86 1.41		10 0.28			0.1			62	0	1				
1/1/64 1340	24	44			8.1 8.4	1.50 <sup>c</sup> 1.50	1.3 0.57		2 0.07	102 1.67		11 0.31			0.1			75	0	1				
2/3 1630	132	48	11.7	102	7.2 8.2	0.78 <sup>c</sup> 0.78	6.5 0.28		0 0.00	53 0.87		3.5 0.10			0.1			39	0	5				
3/2 1630	40	50	11.5	103	8.1 8.4	1.24 <sup>c</sup> 1.24	10 0.44		4 0.13	78 1.28		8.0 0.23			0.1			62	0	0				
4/7 1500	62	58	11.4	112	8.0 8.2	0.98 <sup>c</sup> 0.98	8.1 0.35		0 0.00	69 1.13		3.0 0.08			0.1			49	0	3				
5/4 1430	38	56	11.1	107	8.1 8.1	0.70 0.70	10 0.44	0.9 0.02	0 0.00	89 1.46	4.0 0.08	9.0 0.25	0.4 0.01	0.1 0.01	0.2	37	ABS 0.0 PO <sub>4</sub> 0.05	64	0	1				
6/9 1510	33	59	9.7	97	7.9 8.3	1.34 <sup>c</sup> 1.34	12 0.52		1 0.03	91 1.49		6.0 0.17			0.4			67	0	2				
7/7 1300	3.3	80	9.2	114	8.1 8.4	1.52 <sup>c</sup> 1.52	15 0.65		2 0.07	105 1.72		11 0.31			0.2			76	0	2				
8/3 1620	0.6	81	9.5	119	8.3 8.5	1.52 <sup>c</sup> 1.52	17 0.74		8 0.27	94 1.54		13 0.37			0.2			76	0	7				
9/2 1430	8.2	67	9.6	105	8.1 8.3	0.85 0.85	18 0.78	1.8 0.05	2 0.07	104 1.70	2.0 0.19	17 0.48	0.4 0.01		0.2	37	ABS 0.1 PO <sub>4</sub> 0.05	79	0	3				



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

BIG CHICO CREEK NEAR CHICO (STA. 85)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million										Total dissolved solids in ppm	Percent sodium	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform MPN/ml	Analyzed by						
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents					
10/8/63 1400	28	63	9.8	102	202	8.2 8.3	1.48 <sup>c</sup>	1.3 0.57		1 0.03	105 1.72		11 0.31					0.1		1	Median 6.2	110 <sup>f</sup>	28	74	0	1	Median 6.2	150 <sup>f</sup>	1503
11/5/64 0800	70	53	11.0	102	182	7.7 7.8	1.42 <sup>c</sup>	1.0 0.44		0 0.00	94 1.54		9.5 0.27					0.1		1	Maximum 250.								
12/3/63 1120	52	44	12.3	101	171	7.6 8.1	1.28 <sup>c</sup>	1.0 0.44		0 0.00	88 1.44		8.7 0.25					0.1		1	Minimum 0.23								
1/16/64 1520	33	43			204	8.0 8.5	1.50 <sup>c</sup>	1.3 0.57		3 0.10	100 1.54		11 0.31					0.1		1									
2/4/64 1030	144	44	12.5	103	100	7.4 8.2	0.88 <sup>c</sup>	2.7 0.25		0 0.00	23 0.87		3.5 0.10					0.1		5									
3/3/64 0400	64	43	12.7	103	154	7.7 8.3	1.18 <sup>c</sup>	2.6 0.42		2 0.07	76 1.25		7.2 0.20					0.1		0									
4/7/64 1500	101	51	11.3	102	127	7.8 8.1	0.96 <sup>c</sup>	7.3 0.32		0 0.00	68 1.11		3.5 0.10					0.1		0									
5/4/64 1250	59	52	11.3	103	166	8.1 8.4	1.4 0.70	6.2 0.57	1.0 0.44	0.2 0.02	3 0.10	82 1.34	4.0 0.08	8.5 0.24	1.3 0.02	0.0 0.00		0.1	3.9	1									
6/10/64 0850	53	57	10.4	101	176	7.9 8.3	1.28 <sup>c</sup>	1.1 0.48		1 0.03	90 1.48		5.0 0.14					0.2		1									
7/7/64 1120	33	72	8.8	101	209	8.3 8.5	1.58 <sup>c</sup>	1.5 0.65		3 0.10	105 1.72		11 0.31					0.3		1									
8/14/64 0850	20	70	8.6	97	216	8.1 8.4	1.54 <sup>c</sup>	1.6 0.70		5 0.17	103 1.59		13 0.37					0.2		4									
9/2/64 1230	35	62	10.0	103	210	8.3 8.0	1.6 0.80	2.0 0.74	1.5 0.65	1.7 0.04	0 0.00	104 1.70	7.0 0.15	11 0.31	0.4 0.01			0.2	3.6	1									



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
BUTTE CREEK NEAR CHICO (STA. 84)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH $\frac{a}{b}$	Mineral constituents in parts per million										Total dissolved solids in ppm	Percent sodium	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>
			ppm	% Sat			equivalents per million																
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )			
10/9/63 0930	144	58	10.5	103	108	$\frac{7.6}{7.8}$	$\frac{96}{0.96^c}$		$\frac{3.3}{0.14}$		$\frac{0}{0.00}$	$\frac{65}{1.07}$		$\frac{1.8}{0.05}$		$\frac{0.0}{0.00}$		48	0	1	Median 2.3	UGGS	
11/5 0750	305	50	10.8	96	106	$\frac{7.4}{7.4}$	$\frac{94}{0.94^c}$		$\frac{3.3}{0.14}$		$\frac{0}{0.00}$	$\frac{62}{1.02}$		$\frac{1.8}{0.05}$		$\frac{0.0}{0.00}$		47	0	20	Maximum 130.		
12/3 1030	138	44	12.3	101	111	$\frac{7.3}{8.2}$	$\frac{100}{1.00^c}$		$\frac{3.4}{0.15}$		$\frac{0}{0.00}$	$\frac{67}{1.10}$		$\frac{2.0}{0.06}$		$\frac{0.0}{0.00}$		50	0	1	Minimum 0.20		
1/6/64 1415	164	43			106	$\frac{7.5}{8.2}$	$\frac{92}{0.92^c}$		$\frac{3.9}{0.17}$		$\frac{0}{0.00}$	$\frac{63}{1.03}$		$\frac{2.4}{0.07}$		$\frac{0.0}{0.00}$		46	0	1			
2/4 0930	375	42	12.5	100	88	$\frac{7.3}{8.2}$	$\frac{77}{0.77^c}$		$\frac{3.6}{0.16}$		$\frac{0}{0.00}$	$\frac{49}{0.80}$		$\frac{1.0}{0.03}$		$\frac{0.1}{0.00}$		38	0	5			
3/3 0850	256	38	13.1	99	87	$\frac{7.3}{8.2}$	$\frac{77}{0.77^c}$		$\frac{3.8}{0.17}$		$\frac{0}{0.00}$	$\frac{50}{0.82}$		$\frac{1.2}{0.03}$		$\frac{0.0}{0.00}$		38	0	2			
4/7 1355	380	52	11.6	106	80	$\frac{7.6}{8.0}$	$\frac{68}{0.68^c}$		$\frac{3.3}{0.14}$		$\frac{0}{0.00}$	$\frac{46}{0.75}$		$\frac{0.5}{0.01}$		$\frac{0.0}{0.00}$		34	0	1			
5/4 1335	38	48	11.8	103	74	$\frac{7.4}{8.1}$	$\frac{84}{0.84}$	$\frac{2.4}{0.20}$	$\frac{3.0}{0.13}$	$\frac{0.6}{0.02}$	$\frac{0}{0.00}$	$\frac{42}{0.69}$	$\frac{0.0}{0.00}$	$\frac{1.0}{0.05}$	$\frac{1.4}{0.02}$	$\frac{0.0}{0.00}$	$\frac{22}{0.00}$	31	0	2			
6/10 1000	325	52	11.0	101	80	$\frac{7.5}{8.1}$	$\frac{66}{0.66^c}$		$\frac{3.1}{0.13}$		$\frac{0}{0.00}$	$\frac{46}{0.75}$		$\frac{0.5}{0.01}$		$\frac{0.1}{0.00}$		33	0	1			
7/7 1205	157	68	9.4	104	97	$\frac{7.9}{8.1}$	$\frac{82}{0.82^c}$		$\frac{4.2}{0.18}$		$\frac{0}{0.00}$	$\frac{57}{0.93}$		$\frac{0.5}{0.01}$		$\frac{0.1}{0.00}$		41	0	5			
8/3 1800	132	70	8.5	96	103	$\frac{7.8}{8.2}$	$\frac{90}{0.90^c}$		$\frac{4.3}{0.19}$		$\frac{0}{0.00}$	$\frac{59}{0.97}$		$\frac{1.0}{0.03}$		$\frac{0.0}{0.00}$		45	0	3			
9/2 1325	138	60	10.7	111	107	$\frac{8.1}{8.1}$	$\frac{12}{0.60}$	$\frac{4.4}{0.36}$	$\frac{4.7}{0.20}$	$\frac{0.7}{0.02}$	$\frac{0}{0.00}$	$\frac{64}{1.05}$	$\frac{3.0}{0.06}$	$\frac{0.6}{0.02}$	$\frac{0.7}{0.01}$		$\frac{21}{0.00}$	48	0	3			



TABLE D - 2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
CACHE CREEK NEAR CAPAY (STA. 80)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium in ppm	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by i	
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents
10/8/63 1545	127	71	9.0	103	446	8.3 8.3	3.44 <sup>e</sup>	28 1.22		2 0.07	220 3.61		30 0.85			1.2		248 <sup>e</sup>	26	172	0	4	Median 6.0	USGS
11/5 1010	22	58	9.3	92	671	8.2 8.5	4.80 <sup>e</sup>	53 2.31		10 0.33	258 4.23		74 2.09			2.0		373 <sup>e</sup>	32	240	12	2	Maximum 23.	
12/4 0915	89	49	10.8	95	730	8.1 8.5	5.06 <sup>e</sup>	64 2.78		12 0.40	257 4.21		83 2.34			2.8		406 <sup>e</sup>	35	253	23	1	Minimum 0.5	
1/7/64 1430	46	53	12.8	119	866	8.3 8.4	5.44 <sup>e</sup>	76 3.31		8 0.27	276 4.52		118 3.33			3.2		481 <sup>e</sup>	38	272	33	2		
2/5 1500	203	53	11.2	104	562	8.1 8.5	3.90 <sup>e</sup>	47 2.04		10 0.33	214 3.51		54 1.52			1.7		312 <sup>e</sup>	34	195	3	5		
3/3 1430	94	55	11.8	112	753	8.3 8.6	4.92 <sup>e</sup>	64 2.78		17 0.57	245 4.02		91 2.57			2.7		418 <sup>e</sup>	36	246	17	5		
4/7 0845	130	56	10.0	96	612	8.4 8.6	4.22 <sup>e</sup>	49 2.13		13 0.43	234 3.84		60 1.69			2.5		340 <sup>e</sup>	34	211	0	0		
5/5 0850	283	57	9.5	92	423	8.3 8.3	28 1.40	33 2.68	9.8 0.43	2.6 0.07	208 3.41	14 0.29	26 0.73	2.6 0.04	0.1 0.01	1.6	20	242 <sup>f</sup> 244 <sup>g</sup>	9	204	30	5		
6/9 1400	347	63	9.6	100	388	8.1 8.2	3.16 <sup>e</sup>		22 0.96		0 0.00	198 3.25		20 0.56		1.3		216 <sup>e</sup>	23	158	0	3		
7/9 1415	358	79	9.7	120	349	8.4 <sup>h</sup> 8.3	2.98 <sup>e</sup>		18 0.78		2 0.07	184 3.02		14 0.39		1.0		194 <sup>e</sup>	21	149	0	10		
8/4 1415	354	82	10.7	136	346	8.4 <sup>h</sup> 8.4	3.00 <sup>e</sup>		18 0.78		4 0.13	186 3.05		12 0.34		1.2		192 <sup>e</sup>	21	150	0	20		
8/31 0830	242	68	9.0	99	374	8.7 7.2	29 1.45	20 1.63	19 0.83	2.5 0.06	0 0.00	194 3.18	9.0 0.19	14 0.39	10 0.16	1.2	28	229 <sup>f</sup> 226 <sup>g</sup>	21	154	0	25		



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

CACHE CREEK NEAR LOWER LAKE (STA. 42)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium in ppm	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by 1	
			ppm	%Sat		Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents
10/8/63 1320	108	68	8.4	96	297	7.7 8.4	2.66 <sup>c</sup>	12 0.52		4 0.13	164 2.69		7.0 0.20		1.0			15	Median 6.0	US08			
11/5 1240	4.0	57	8.5	85	314	7.7 8.1	2.82 <sup>c</sup>	12 0.52		0 0.00	176 2.88		8.2 0.23		1.0			4	Maximum 62.				
12/4 1145	3.6	47	10.4	92	291	7.7 8.0	2.54 <sup>c</sup>	13 0.57		0 0.00	158 2.59		6.0 0.17		0.8			20	Minimum 0.5				
1/7/64 1015	3.6	45	11.2	96	289	7.5 8.2	2.40 <sup>c</sup>	13 0.57		0 0.00	138 2.26		11 0.31		0.7			20					
2/5 1015	4.2	45	11.6	100	284	7.7 7.5	2.31 <sup>c</sup>	13 0.57		0 0.00	132 2.16		12 0.34		0.5			15					
3/3 1015	3.4	46	10.6	93	283	7.7 8.2	2.46 <sup>c</sup>	14 0.61		0 0.00	126 2.07		12 0.34		0.5			50					
4/7 1120	82	56	10.4	103	322	8.3 8.1	2.88 <sup>c</sup>	15 0.65		0 0.00	186 3.05		5.0 0.14		1.1			8					
5/5 1315	240	57	9.7	97	305	8.1 8.0	27 1.35	17 1.41	2.4 0.06	0 0.00	176 2.88	2.0 0.19	8.8 0.25	2.6 0.04	0.2 0.01	1.0	27	ABS 0.0 FO <sub>4</sub> 0.10 As 0.00	5				
6/9 0930	198	61	8.8	93	319	7.6 7.9	2.84 <sup>c</sup>	13 0.57		0 0.00	172 2.82		8.0 0.23		1.0			6					
7/9 1000	395	75	8.2	100	312	8.3 7.6	2.78 <sup>c</sup>	13 0.57		0 0.00	172 2.82		6.0 0.17		1.0			4					
8/4 0930	398	77	8.0	100	314	8.4 7.9	2.80 <sup>c</sup>	13 0.57		0 0.00	180 2.95		7.0 0.20		1.0			15					
8/31 1230	262	72	8.0	95	326	8.5 7.1	27 1.35	18 1.51	2.2 0.06	0 0.00	176 2.88	14 0.29	6.9 0.19	13 0.21	1.1	25	ABS 0.1 FO <sub>4</sub> 0.60 As 0.01	10					



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

CACHE CREEK, NORTH FORK NEAR LOWER LAKE (STA. 79)

Date and time sampled P.M.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (microhm/cm at 25°C)	pH at 25°C	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent solid in ppm	Hardness as CaCO <sub>3</sub> in ppm	Turbid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>				
			ppm	% sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents	
10/8/63 1420	3.1	72	10.5	123	535	8.4 8.6	4.08 <sup>c</sup>		32 1.39		10 0.33	202 3.31		58 1.64			3.3			22	204	25	303 <sup>e</sup>	2	Median 6.2	UBGS
11/5 1145	19	57	10.7	106	773	8.1 8.5	5.80 <sup>c</sup>		50 2.18		10 0.33	258 4.23		107 3.02			5.7			62	290	27	438 <sup>e</sup>	1	Maximum 62.	
12/4 1100	35	47	11.6	101	529	8.1 8.4	4.18 <sup>c</sup>		33 1.44		8 0.27	224 3.67		49 1.38			3.2			12	209	26	300 <sup>e</sup>	1	Minimum 0.13	
1/7/64 1245	30	49	12.3	111	562	8.3 8.6	4.30 <sup>c</sup>		34 1.48		11 0.37	227 3.72		55 1.55			3.8			11	215	26	319 <sup>e</sup>	2		
2/5 1315	112	51	11.3	104	329	7.9 8.4	2.66 <sup>c</sup>		19 0.83		7 0.23	156 2.56		17 0.48			1.2			0	133	24	187 <sup>e</sup>	5		
3/3 1245	55	50	11.3	103	419	8.1 8.6	3.44 <sup>c</sup>		25 1.09		14 0.47	181 2.97		28 0.79			2.6			1	172	24	238 <sup>e</sup>	5		
4/7 1025	43	56	10.8	106	432	8.4 8.5	3.32 <sup>c</sup>		28 1.22		7 0.23	196 3.21		30 0.85			2.5			0	166	27	244 <sup>e</sup>	0		
5/5 1015	33	56	11.5	113	505	8.4 8.5	3.3 1.65	28 2.27	37 1.61	1.4 0.04	8 0.27	220 3.61	16 0.33	42 1.18	0.8 0.01	0.0 0.00	3.5	15	ABS 0.0 PO <sub>4</sub> 0.00	2	196	29	293 <sup>f</sup> 2808	1		
6/9 0900	14	59	9.9	101	536	8.1 8.6	4.08 <sup>c</sup>		42 1.83		16 0.53	210 3.44		54 1.52			3.6			6	204	31	304 <sup>e</sup>	1		
7/9 0900	4.3	72	9.1	106	587	8.1 8.6	4.18 <sup>c</sup>		41 1.78		10 0.33	220 3.61		60 1.69			4.2			11	208	30	332 <sup>e</sup>	1		
8/4 1245	1.9	86	10.6	143	602	8.3 8.6	4.28 <sup>c</sup>		45 1.96		16 0.53	209 3.43		72 2.03			5.4			16	214	31	341 <sup>e</sup>	3		
8/31 1100	0.8	71	9.8	114	676	8.1 8.4	4.3 2.15	35 2.85	45 1.96	1.9 0.05	7 0.23	256 4.20	13.3 0.27	82 2.31	1.1 0.02		5.3	24	ABS 0.0 PO <sub>4</sub> 0.00	29	250	28	383 <sup>f</sup> 3858	1		



ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

CACHE SLOUGH BELOW LINDSEY SLOUGH (STA. 110a.)

[illegible]



TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

CALAVERAS RIVER BELOW HOGAN DAM (STA. 16c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25° C)	pH a b	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by 1		
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents	
1/6/64 1100	39	46	11.8	101	274	7.5 8.2	2.38 <sup>c</sup>		2.2 0.40		0 0.00	127 2.03		10 0.28			0.0			14	119	15	2	Median 0.95	USGS
2/3	Not Sampled -- Dry																								
3/3 1120	35	50	11.4	103	184	7.6 7.6	1.60 <sup>c</sup>	6.0 0.26		0 0.00	84 1.35		4.5 0.13			0.1			14	80	11	3	Maximum 62.		
4/6 1115	25	57	12.9	127	198	7.6 8.6	1.74 <sup>c</sup>	7.2 0.31		4 0.13	88 1.44		5.5 0.16			0.0			15	87	8	2			
5/5 0930	68	55	11.5	110	198	8.2 7.7	22 1.10	7.9 0.65	1.7 0.04	0 0.00	94 1.54	13 0.27	5.7 0.16	2.4 0.04	0.0 0.00	0.0		ABS 0.1 PO <sub>4</sub> 0.00	14	88	11	1			
6/9 1100	29	58	9.0	90	210	7.7 7.8	1.86 <sup>c</sup>	6.8 0.30		0 0.00	104 1.70		5.5 0.16			0.1			14	93	8	3			
7/8 0945	189	68	8.7	97	206	7.6 8.1	1.82 <sup>c</sup>	6.4 0.28		0 0.00	104 1.70		4.5 0.13			0.0			13	91	6	2			
8/3 1300	196	76	8.3	101	211	7.7	1.98 <sup>c</sup>	7.5 0.33		0 0.00	108 1.77		5.0 0.14			0.0			15	95	6	2			
9/8 1300	Not Sampled -- Dry																								



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

CALAVERAS RIVER ABOVE HOGAN RESERVOIR (STA. 16d)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH @ 5	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>
			ppm	%Sat			equivalents per million																
							Calcium (Ca)	Magne-sium (Mg)	Sodium (Na)	Potas-sium (K)	Carbon-ate (CO <sub>3</sub> )	Bicar-bonate (HCO <sub>3</sub> )	Sul-fate (SO <sub>4</sub> )	Chlo-ride (Cl)	Ni-trate (NO <sub>3</sub> )	Fluo-ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )			
1/6/64 1305		45	11.9	100	256	6.8 8.1	2.24 <sup>c</sup>		8.9 0.39		0 0.00	118 1.93		10 0.28			0.0			15	2	Median 23.	USGS
2/3 1405		52	11.4	106	161	7.6 8.4	1.40 <sup>c</sup>		5.2 0.26		2 0.07	75 1.23		6.5 0.18			0.0			16	2	Maximum 62.	
3/3 1320		51	12.8	117	215	7.6 7.7	1.88 <sup>c</sup>		7.1 0.31		0 0.00	105 1.72		7.7 0.22			0.0			14	1	Minimum 0.06	
4/6 1300		59	11.2	113	178	7.6 8.7	1.54 <sup>c</sup>		7.1 0.31		5 0.17	83 1.36		6.8 0.19			0.0			17	1		
5/5 1205		54	10.5	100	217	8.3 7.8	2.5 1.25	7.4 0.61	7.2 0.31	2.3 0.06	0 0.00	107 1.75	13 0.27	8.2 0.23	1.0 0.02	0.0 0.00	0.0	17	ABS 0.1 PO <sub>4</sub> 0.10	14	5	1	
6/8 1135		62	8.4	88	235	8.0 8.1	2.02 <sup>c</sup>		8.2 0.36		0 0.00	120 1.97		7.0 0.20			0.0			15	3	1	
7/8 1130		76	8.1	98	227	8.3 8.0	1.96 <sup>c</sup>		7.8 0.34		0 0.00	114 1.87		7.0 0.20			0.0			15	5	1	
8/3 1130		80	11.4	144	256	8.3	2.20 <sup>c</sup>		10 0.44		3 0.10	124 2.03		10 0.28			0.0			17	3	1	
9/8 1130	Not Sampled	-- Dry																					



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
CALAVERAS RIVER AT JENNY LIND (STA. 16a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>				
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents			
10/7/63 1345	8	72	7.8	89	270	7.3 8.0	2.48 <sup>c</sup>		7.0 0.30		0 0.00	143 2.34		6.5 0.18			0.0				7	124	11	166 <sup>e</sup>	USGS	Median 6.2 Maximum 230. Minimum 0.62	
11/6 0945	24	56	8.6	83	290	7.4 8.3	2.58 <sup>c</sup>		7.7 0.33		2 0.07	129 2.11		8.5 0.24			0.0				20	129	11	178 <sup>e</sup>			
12/2 1015	73	48	11.3	98	245	7.7 8.1	2.14 <sup>c</sup>		7.5 0.33		0 0.00	114 1.87		7.0 0.20			0.1				14	107	13	151 <sup>e</sup>			
1/6/64 1000	45	44	12.3	101	270	8.1 8.2	2.42 <sup>c</sup>		9.2 0.40		0 0.00	130 2.13		11 0.31			0.0				14	121	14	166 <sup>e</sup>			
2/3 0930	22	46	11.6	98	308	7.9 8.2	2.68 <sup>c</sup>		11 0.48		0 0.00	133 2.18		10 0.28			0.1				25	134	15	189 <sup>e</sup>			
3/2 1115	43	48	12.6	110	193	8.1 8.1	1.70 <sup>c</sup>		6.4 0.28		0 0.00	89 1.46		5.5 0.16			0.1				12	85	14	118 <sup>e</sup>			
4/6 1340	39	60	13.3	134	214	8.8 8.7	1.92 <sup>c</sup>		7.4 0.32		3 0.10	100 1.64		6.7 0.19			0.0				9	96	14	132 <sup>e</sup>			
5/4 0915	42	56	16.8	104	200	8.4 8.0	23 1.15	7.7 0.63	6.4 0.28	1.7 0.04	0 0.00	102 1.67	15 0.31	5.0 0.14	1.4 0.02	0.0 0.00	0.1	12	ABS 0.0 PO <sub>4</sub> 0.02 As 0.00		5	89	13	122 <sup>f</sup> 119 <sup>g</sup>			
6/8 0845	36	62	7.8	80	208	7.7 8.2	1.86 <sup>c</sup>		9.7 0.42		0 0.00	109 1.79		5.0 0.14			0.0				4	93	18	128 <sup>e</sup>			
7/3 0830	13	69	8.1	90	215	7.7 8.1	1.94 <sup>c</sup>		6.6 0.29		0 0.00	112 1.84		5.0 0.14			0.0				5	97	13	132 <sup>e</sup>			
8/11 0800	37	73	8.3	96	215	7.9 8.1	1.94 <sup>c</sup>		8.0 0.35		0 0.00	110 1.80		5.0 0.14			0.0				7	97	15	132 <sup>e</sup>			
9/17 0815	Dry																										



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
CALAVERAS RIVER NEAR STOCKTON (STA. 16b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in of	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH at 25°C	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub> ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
10/7/63	Not Sampled	--	Dry																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
CLEAR CREEK NEAR IGO (STA. 124)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH $\frac{a}{b}$	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>	
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents
10/10/63 1545	1,320	55	10.9	104	93	$\frac{7.4}{7.8}$	$\frac{0.86^c}{0.86^c}$		$\frac{2.2}{0.10}$		$\frac{0}{0.00}$	$\frac{52}{0.85}$		$\frac{2.8}{0.08}$		$\frac{0.0}{0.0}$			43	0	2		USGS	
11/4 1525	1,360	54	11.1	105	96	$\frac{7.4}{7.9}$	$\frac{0.85^c}{0.85^c}$		$\frac{2.2}{0.10}$		$\frac{0}{0.00}$	$\frac{52}{0.85}$		$\frac{3.2}{0.09}$		$\frac{0.0}{0.0}$			44	1	4			
12/2 1540	1,350	50	11.7	105	93	$\frac{7.3}{7.7}$	$\frac{0.84^c}{0.84^c}$		$\frac{2.2}{0.10}$		$\frac{0}{0.00}$	$\frac{48}{0.79}$		$\frac{3.2}{0.09}$		$\frac{0.0}{0.0}$			42	3	2			
1/3/64 1510	807	48	11.9	104	92	$\frac{7.3}{8.0}$	$\frac{0.86^c}{0.86^c}$		$\frac{2.7}{0.12}$		$\frac{0}{0.00}$	$\frac{48}{0.79}$		$\frac{2.5}{0.07}$		$\frac{0.0}{0.0}$			43	4	2			
2/6 1230	786	46	12.7	108	90	$\frac{7.5}{8.1}$	$\frac{0.80^c}{0.80^c}$		$\frac{3.1}{0.13}$		$\frac{0}{0.00}$	$\frac{46}{0.75}$		$\frac{1.0}{0.03}$		$\frac{0.0}{0.0}$			40	2	4			
3/12 1600	364	47	11.8	102	91	$\frac{7.4}{8.0}$	$\frac{0.80^c}{0.80^c}$		$\frac{3.3}{0.14}$		$\frac{0}{0.00}$	$\frac{46}{0.75}$		$\frac{3.2}{0.09}$		$\frac{0.0}{0.0}$			40	2	1			
4/9 1405	115	52	11.4	105	92	$\frac{7.8}{8.0}$	$\frac{0.82^c}{0.82^c}$		$\frac{3.5}{0.15}$		$\frac{0}{0.00}$	$\frac{48}{0.79}$		$\frac{3.6}{0.10}$		$\frac{0.0}{0.0}$			41	2	1			
5/1 1400	100	51	11.4	109	95	$\frac{8.2}{7.9}$	$\frac{1.1}{0.55}$	$\frac{4.0}{0.33}$	$\frac{2.9}{0.13}$	$\frac{0.5}{0.01}$	$\frac{0}{0.00}$	$\frac{50}{0.82}$	$\frac{3.0}{0.06}$	$\frac{3.8}{0.11}$	$\frac{0.7}{0.01}$	$\frac{0.0}{0.00}$	1.5	ABS 0.0 As 0.00 PO <sub>4</sub> 0.00	44	3	1			
6/8 1400	117	53	10.7	100	96	$\frac{7.8}{8.0}$	$\frac{0.88^c}{0.88^c}$		$\frac{2.8}{0.12}$		$\frac{0}{0.00}$	$\frac{51}{0.84}$		$\frac{2.0}{0.06}$		$\frac{0.0}{0.0}$			44	2	1			
7/9 0130	66	55	10.2	98	98	$\frac{7.6}{7.9}$	$\frac{0.88^c}{0.88^c}$		$\frac{3.0}{0.13}$		$\frac{0}{0.00}$	$\frac{52}{0.85}$		$\frac{2.1}{0.06}$		$\frac{0.0}{0.0}$			44	1	1			
8/3 1500	53	62	10.2	100	91	$\frac{8.0}{8.2}$	$\frac{0.92^c}{0.92^c}$		$\frac{2.8}{0.12}$		$\frac{0}{0.00}$	$\frac{54}{0.89}$		$\frac{1.2}{0.04}$		$\frac{0.1}{0.0}$			44	2	3			
9/4 1100	57	56	10.1	105	98	$\frac{7.8}{7.9}$	$\frac{1.4}{0.32}$	$\frac{7.1}{0.58}$	$\frac{2.4}{0.10}$	$\frac{0.5}{0.01}$	$\frac{0}{0.00}$	$\frac{54}{0.89}$	$\frac{2.0}{0.04}$	$\frac{1.8}{0.05}$	$\frac{1.1}{0.02}$	$\frac{0.0}{0.0}$	1.2	ABS 0.0 As 0.00 PO <sub>4</sub> 0.00	45	1	1			



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
CLEAR LAKE AT LAKEPORT (STA. 41)

Date and time sampled P.S.T	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Percent sodium	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform MPN/ml	Analyzed by		
							equivalents per million																		
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)								Barium (Ba)	Silica (SiO <sub>2</sub> )
10/8/64 1000		69	5.9	68	288	8.0 7.4	2.58 <sup>e</sup>	11 0.48		0 0.00	164 2.69		6.2 0.17			0.2			166 <sup>e</sup>	16	129	0	30	Median 0.95	USGS
11/5 1400		58	8.4	85	285	8.4 8.2	2.60 <sup>e</sup>	11 0.48		0 0.00	168 2.75		8.2 0.23			0.8			164 <sup>e</sup>	16	130	0	20	Maximum 62.	
12/4 1330		53	9.0	86	279	7.7 8.4	2.56 <sup>a</sup>	12 0.52		5 0.17	154 2.52		3.5 0.10			0.8			160 <sup>e</sup>	17	128	0	45	Minimum 0.06	
1/7/64 1130		46	8.6	77	281	7.5 8.2	2.52 <sup>e</sup>	11 0.48		0 0.00	162 2.66		6.8 0.19			0.8			162 <sup>e</sup>	16	126	0	25		
2/5 1130		48	7.5	85	266	9.5 8.1	2.36 <sup>e</sup>	10 0.44		0 0.00	152 2.49		6.8 0.19			0.6			153 <sup>e</sup>	16	118	0	20		
3/3 1130		48	10.6	95	278	7.7 8.2	2.46 <sup>e</sup>	11 0.48		0 0.00	157 2.57		8.1 0.23			0.7			160 <sup>e</sup>	16	123	0	15		
4/7 1310		62	11.4	121	267	8.4 8.5	2.44 <sup>e</sup>	2.0 0.39		4 0.13	147 2.41		7.0 0.20			0.7			154 <sup>e</sup>	14	122	0	8		
5/5 1200		56	9.2	91	281	8.4 8.2	2.10	12 0.52	2.0 0.05	0 0.00	161 2.64	10 0.21	6.0 0.17	2.6 0.04	0.1 0.01	0.8	23	ABS 0.0 As 0.00 PO <sub>4</sub> 0.10	174 <sup>f</sup> 175 <sup>g</sup>	17	126	0	20		
6/9 1145		63	7.1	77	289	7.9 8.3	2.60 <sup>e</sup>	11 0.48		3 0.10	159 2.61		6.5 0.18			0.9			169 <sup>e</sup>	16	130	0	10		
7/9 1200		76	7.0	87	292	7.9 8.4	2.68 <sup>e</sup>	12 0.52		3 0.10	164 2.69		4.5 0.13			0.8			171 <sup>e</sup>	16	134	0	20		
8/4 1100		78	7.9	100	306	8.1 8.2	2.76 <sup>e</sup>	12 0.52		0 0.00	178 2.92		7.0 0.20			0.9			176 <sup>e</sup>	16	138	0	15		
8/31/64 1130		74	7.5	91	323	8.3 7.6	2.30	12 0.52	2.1 0.05	0 0.00	174 2.85	9.0 0.19	6.5 0.18	8.0 0.13		1.0	34	ABS 0.0 As 0.01 PO <sub>4</sub> 1.15	203 <sup>f</sup> 194 <sup>g</sup>	16	139	0	25		



TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

COLUSA THROUGH NEAR COLUSA (STA. 87)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by		
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents	
																								Total ppm	N.C. ppm
10/8/63 1000	363	67	8.1	87	504	7.8 8.1	3.02 <sup>c</sup>		2.0 2.18		0 0.00	1.8 3.25	2.1 1.23	1.7 0.76		0.0			42	151	0	40	Median 146.	11.62	
11/4 1340	291	67	9.8	106	663	7.9 7.6	3.46 <sup>c</sup>		7.3 3.18		0 0.00	2.02 3.31	4.6 1.30	4.6 1.30		0.1			48	173	7	25	Maximum 620.		
12/2 1300	265	50	10.2	90	1140	7.9 8.1	5.14 <sup>c</sup>		1.4 5.83		0 0.00	3.00 4.92	7.8 2.20	7.8 2.20		0.3			52	272	26	15	Minimum 2.9		
1/6/64	Not Sampled																								
2/3 1400	157	51	11.1	99	1580	8.3 8.7	7.80 <sup>c</sup>		225 9.79		30 1.00	330 5.41	336 7.00	130 3.67		0.4			56	390	70	30			
3/2 1340	101	54	12.6	117	1560	8.5 8.6	7.76 <sup>c</sup>		226 9.83		18 0.60	254 5.80	322 6.70	133 3.75		0.4			56	388	68	15			
4/7 1010	255	58	9.5	93	502	8.2 7.8	2.68 <sup>c</sup>		56 2.44		0 0.00	1.06 2.72	77 1.60	26 0.73		0.2			48	134	0	160			
5/4 0935	897	58	9.6	93	475	8.0 8.3	1.25 <sup>c</sup>	15 1.21	54 2.35	1.8 0.05	1 0.03	154 2.52	64 1.33	26 0.73	2.6 0.04	0.2 0.01	0.2	17	ABS 0.0 PO <sub>4</sub> 0.30 As 0.00	48	123	0	45		
6/9 1250	740	63	8.8	91	543	8.0 8.6	2.70 <sup>c</sup>		68 2.76		7 0.23	183 3.00	67 1.39	30 0.85		0.4			52	135	0	130			
7/7 0835	616	75	6.9	81	501	7.8 8.4	3.00 <sup>c</sup>		53 2.31		4 0.13	192 3.26	53 1.10	24 0.68		0.3			44	150	0	25			
8/3 1420	510	77	8.0	95	565	7.8 8.6	3.34 <sup>c</sup>		60 2.61		10 0.33	215 3.52	30 0.85	30 0.85		0.3			44	167	0	20			
9/2 0700	713 est.	65	8.7	92	451	7.7 8.2	1.30 <sup>c</sup>	19 1.56	42 1.83	2.8 0.07	0 0.00	202 3.31	39 0.81	21 0.59	1.3 0.02	0.2	18	ABS 0.1 PO <sub>4</sub> 0.25 As 0.00	38	143	0	50			



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
COSUMES RIVER AT McCONNELL (STA. 94a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million											Total dissolved solids in ppm	Percent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by i	
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)			Silica (SiO <sub>2</sub> )	Other constituents				
11/14/63 1500	18	56	10.4	99	96	7.4 7.6	0.76		3.7 0.16		0 0.00	48 0.79		1.5 0.04			0.0				38	0	4	Median 5.0	UBCS
1/6/64 1430	77	44	12.5	102	113	7.4 8.2	0.92		4.5 0.20		0 0.00	57 0.93		4.8 0.14			0.0				46	0	1	Maximum 62	
3/2 1340	172	50	11.5	102	102	7.5 8.1	0.94		4.5 0.20		0 0.00	53 0.87		3.0 0.08			0.0				47	4	2	Minimum 1.3	
5/14 1330	418	60	10.5	105	59	7.3 7.8	6.4 0.32	1.7 0.14	3.1 0.13	0.8 0.02	0.0 0.00	30 0.49	2.0 0.04	2.5 0.07	0.4 0.01	0.0 0.00	0.0		16	ABS PO <sub>4</sub>	0.0 0.00	0	6		
7/7 1400	Not Sampled	--	Dry																						
9/1 0745	Not Sampled	--	Dry																						



TABLE D-2

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in parts per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by }								
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F) <sup>e</sup>			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents							
11/4/63 1400	43	57	10.2	99	83	7.4 7.7	0.66 <sup>c</sup>	3.6 0.16	0 0.00	44 0.72			2.0 0.06			0.2		62 <sup>e</sup>	20	33	0	1	Median 2.9	USGS							
1/6/64 1355	85	42	12.8	102	112	7.3 8.2	0.94 <sup>c</sup>	4.3 0.19	0 0.00	56 0.92			4.4 0.12			0.0		83 <sup>e</sup>	17	47	1	1	Maximum 23.								
3/2 1240	238	47	12.4	106	108	7.5 8.0	0.88 <sup>c</sup>	4.5 0.20	0 0.00	56 0.92			3.5 0.10			0.0		80 <sup>e</sup>	19	44	0	1	Minimum 0.21								
5/4 1230	474	53	11.7	108	61	7.3 7.6	6.2 0.31	2.8 0.12	0.0 0.00	30 0.49		3.0 0.06	2.5 0.07			0.0 0.00	16 0.00	49 <sup>f</sup> 468	20	24	0	2									
7/3 1115	49	75	9.3	109	69	7.5 8.0	0.52 <sup>c</sup>	3.9 0.17	0 0.00	36 0.59			1.0 0.03			0.1		51 <sup>e</sup>	25	26	0	4									
9/1 1145	11	73	10.1	117	66	7.3 8.0	6.4 0.32	3.2 0.14	0 0.00	34 0.56		2.0 0.04	0.8 0.02			0.0	15 0.00	51 <sup>f</sup> 488	21	25	0	2									
																		ABS 0.0 As 0.00 PO <sub>4</sub> 0.00													



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

COTTONWOOD CREEK NEAR COTTONWOOD (ITA. 12b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>				
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents			
10/10/63 1415	118	66	9.2	99	179	7.3 7.9	1.50 <sup>c</sup>	7.3 0.32				0 0.00	98 1.61		6.1 0.17				0.0			18	75	0	10	Median 6.2	URGS
11/7 0935	410	51	10.3	93	297	7.5 8.2	2.36 <sup>c</sup>	13 0.57				0 0.00	122 2.00		25 0.71				0.1			19	118	18	15	Maximum 620.	
12/5 0925	352	47	11.1	95	244	7.4 8.2	2.14 <sup>c</sup>	2.0 0.39				0 0.00	124 2.03		2.7 0.27		As 0.00		0.0			15	107	5	15	Minimum 0.62	
1/8/64 1330	215	48	11.7	102	260	7.7 8.4	2.32 <sup>c</sup>	11 0.48				2 0.07	126 2.07		13 0.37				0.0			17	116	0	0		
2/5 1025	700	45	11.7	98	239	7.6 8.4	2.16 <sup>c</sup>	2.0 0.39				4 0.13	119 1.95		7.3 0.21				0.0			15	108	4	0		
3/3 1525	280	54	11.8	110	264	7.8 8.4	2.32 <sup>c</sup>	11 0.48				2 0.07	130 2.13		12 0.34				0.0			17	116	6	0		
4/6 1245	235	61	10.3	105	263	8.0 8.5	2.36 <sup>c</sup>	10 0.44				4 0.13	130 2.13		12 0.34				0.0			16	118	5	1		
5/4 1345	240	67	11.5	125	239	8.2 8.1	2.3 1.15	2.1 0.40	11 0.91		0.7 0.02	0 0.00	122 2.00	11 0.23	11 0.31	0.4 0.01	0.1 0.01	0.0	18	ARS 0.0 PO <sub>4</sub> 0.00	As 0.00	16	103	3	1		
6/8 0850	160	64	8.8	93	223	7.3 8.2	1.94 <sup>c</sup>	2.8 0.43				0 0.00	119 1.95		8.5 0.24				0.0			18	97	0	1		
7/9 0930	60	71	8.8	100	200	7.4 8.2	1.74 <sup>c</sup>	2.1 0.40				0 0.00	112 1.84		4.7 0.13				0.0			19	87	0	2		
8/3 1000	47	71	9.4	107	177	7.4 8.1	1.56 <sup>c</sup>	8.6 0.37				0 0.00	106 1.74		3.0 0.08				0.0			19	78	0	2		
9/4 1300	56	72	11.7	134	179	7.8 8.0	1.7 0.85	8.4 0.37	7.9 0.65		1.4 0.04	0 0.00	103 1.69	7.0 0.15	3.2 0.09	1.4 0.02		ARS 0.0 PO <sub>4</sub> 0.10	As 0.00	110 <sup>f</sup>	19	75	0	1			



TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

COTTONWOOD CREEK BELOW NORTH FORK COTTONWOOD CREEK (STA. 11a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub> Total ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by			
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents
10/10/03 1510	25 est.	67	10.1	111	250	8.2	2.16 <sup>c</sup>		9.5 0.41		0 0.00	124 2.07		10 0.75		0.0			1	1					
11/4 1605	100 est.	54	10.0	95	214	7.7	1.86 <sup>c</sup>		8.0 0.35		0 0.00	101 1.76		12 0.34		0.0			10	40					
12/2 1615	20 est.	46	11.7	100	215	7.8	2.00 <sup>c</sup>		6.6 0.29		0 0.00	111 1.95		7.0 0.26		0.0			2	2					
1/3/64 1440	30 est.	45	12.5	105	233	8.0	2.18 <sup>c</sup>		8.0 0.35		2 0.07	121 1.98		9.1 0.36		0.0			7	7					
2/6 1145	150 est.	43	12.8	105	230	8.0	2.16 <sup>c</sup>		6.4 0.28		3 0.10	120 1.97		3.0 0.08		0.0			5	3					
3/12 1530	100 est.	46	11.7	100	257	8.0	2.20 <sup>c</sup>		9.2 0.40		0 0.00	125 2.05		10 0.28		0.0			15	15					
4/9 1330	50 est.	62	10.8	112	253	8.3	2.44 <sup>c</sup>		7.5 0.33		2 0.17	133 2.18		2.4 0.28		0.0			2	1					
5/1 1330	50 est.	66	9.7	106	259	8.2	2.4 1.20	12 1.02	7.1 0.31	0 0.00	0 0.00	130 2.13	2.0 0.19	10 0.28	0.1 0.01	0.0	1.2	2.4 0.0 0.0 0.02	4	40					
6/8 1310	20 est.	66	9.0	98	249	8.0	2.34 <sup>c</sup>		8.5 0.37		4 0.13	128 2.10		9.0 0.25		0.0			5	1					
7/9 0810	8 est.	71	7.0	81	301	7.6	2.84 <sup>c</sup>		7.7 0.42		4 0.13	129 2.56		13 0.37		0.0			8	1					
8/3 1400	3 est.	83	9.5	123	317	8.2	2.77 <sup>c</sup>		10 0.44		4 0.13	158 2.77		9.0 0.25		0.0			8	4					
9/4 1145	15 est.	73	9.8	115	300	8.0	3.1 1.55	10 1.27	12 0.52	1.3 0.53	0 0.00	156 2.57	2.0 0.17	23 0.65	0.0 0.01	0.0	20	2.4 0.0 0.0 0.2	15	1					



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

COTTONWOOD CREEK, SOUTH FORK ABOVE COTTONWOOD CREEK (STA. 116b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH at 1 ft	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub> in ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
							equivalents per million																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
10/7/63	Not Sampled	-- Dry	--	--	411	7.7 8.3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												</



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO.5)  
COW CREEK NEAR MILLVILLE (STA. 88a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub> in ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by			
			ppm	% Sat		Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents
10/10/03 0820	76	65	8.8	94	170	7.6 8.1	1.36 <sup>c</sup>	7.7 0.33	0	92 1.51	0	7.0 0.20	0.0	0.0	0.0	0.0	0.0	0.0	68	0	3	USGS		
11/7 1530	340	50	10.7	95	150	7.3 7.9	1.21 <sup>c</sup>	8.2 0.36	0	62 1.02	0	8.8 0.25	0	0	0.1	0.1	0.1	0.1	60	9	20			
12/5 1445	212	45	12.4	103	154	7.3 8.0	1.18 <sup>c</sup>	8.7 0.38	0	71 1.16	0	8.0 0.23	0	0	0.1	0.1	0.1	0.1	59	1	1			
1/2/64 0945	187	45	12.1	101	156	7.4 8.1	1.18 <sup>c</sup>	8.7 0.38	0	71 1.16	0	8.5 0.24	0	0	0.0	0.0	0.0	0.0	59	1	2			
2/6 0855	340	42	12.4	99	140	7.5 8.1	1.07 <sup>c</sup>	7.8 0.34	0	67 1.10	0	6.6 0.19	0	0	0.0	0.0	0.0	0.0	53	0	2			
3/12 1325	380	47	12.1	104	143	7.4 8.2	1.18 <sup>c</sup>	7.8 0.34	0	70 1.15	0	6.8 0.19	0	0	0.0	0.1	0.1	0.1	59	2	2			
4/9 0920	114	58	9.9	97	126	7.4 8.1	1.00 <sup>c</sup>	7.1 0.31	0	65 1.07	0	6.4 0.18	0	0	0.0	0.0	0.0	0.0	50	0	1			
5/7 1100	215	61	10.6	108	122	7.6 7.9	1.2 0.60	6.5 0.28	0	62 1.02	5.0 0.10	5.8 0.16	0	0	0.1	27	ABS 0.0 PO <sub>4</sub> 0.05 As 0.00	49	0	2				
6/11 0850	230	65	9.2	98	124	7.4 8.1	1.00 <sup>c</sup>	6.6 0.29	0	66 1.08	0	4.0 0.11	0	0	0.0	0.0	0.0	50	0	5				
7/9 1130	22	82	8.9	113	167	8.0 8.4	1.36 <sup>c</sup>	8.5 0.37	2	88 1.44	0	3.5 0.10	0	0	0.1	0.1	0.1	68	0	8				
8/3 0835	14	77	8.0	96	197	7.6 8.4	1.62 <sup>c</sup>	10 0.44	3	104 1.70	0	6.0 0.17	0	0	0.1	0.1	0.1	81	0	1				
9/4 1445	29	77	9.6	116	206	8.0 8.1	0.90	12 0.52	0	100 1.64	5.0 0.10	13 0.37	0	0	0.2	32	ABS 0.0 PO <sub>4</sub> 0.10 As 0.00	79	0	3				



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
DELTA CROSS CHANNEL NEAR WALNUT GROVE (STA. 98)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH at 25°C	Mineral constituents in parts per million										Total dissolved solids in ppm	Percent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform MPN/ml	Analyzed by <sup>1</sup>			
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Barium (Ba)	Silica (SiO <sub>2</sub> )				Other constituents		
10/10/63 0845	Tidal	63	8.0	83	153	7.3 8.0	1.14 <sup>e</sup>		8.3 0.36		0 0.00	74 1.21		6.5 0.18				0.0				57	0	10	Median 230.	USGS
11/8 0840		55	9.0	85	164	7.3 8.0	1.17 <sup>e</sup>		9.4 0.41		0 0.00	76 1.25		6.0 0.17				0.2				59	0	25	Maximum 7000.	
12/5 1245		48	10.5	90	156	7.3 7.9	1.12 <sup>e</sup>		9.4 0.41		0 0.00	70 1.15		6.5 0.18				0.0				56	0	9	Minimum 2.3	
1/8/64 1100		46	11.3	94	171	7.3 8.3	1.28 <sup>e</sup>		10 0.44		2 0.07	74 1.21		7.5 0.21				0.0				64	0	2		
2/6 1230		47	11.4	97	176	7.3 7.9	1.26 <sup>e</sup>		11 0.48		0 0.00	76 1.25		8.8 0.25				0.0				63	1	15		
3/4 1130		50	11.0	97	156	7.3 8.2	1.12 <sup>e</sup>		9.7 0.42		0 0.00	74 1.21		5.5 0.16				0.1				56	0	2		
4/8 0840		56	9.6	92	135	7.7 8.1	1.04 <sup>e</sup>		7.4 0.32		0 0.00	65 1.07		3.0 0.08				0.0				52	0	9		
5/6 0800		58	8.9	87	177	7.5 7.8	1.1 0.55	7.9 0.65	13 0.57	1.5 0.04	0.0 0.00	72 1.13	12 0.25	9.5 0.27	1.9 0.3	0.1 0.1		0.1	12	ABS 0.1 AS 0.00 PO <sub>4</sub> 0.35		60	1	9		
6/10 1200		68	7.7	84	196	7.3 8.1	1.34 <sup>e</sup>		14 0.61		0 0.00	84 1.38		11 0.31				0.1				67	0	7		
7/8 1300		72	8.6	98	158	7.6 8.1	1.16 <sup>e</sup>		11 0.48		0 0.00	74 1.21		5.5 0.16				0.1				58	0	4		
8/5 1400		75	8.1	95	154	7.5 8.1	1.12 <sup>e</sup>		11 0.48		0 0.00	69 1.13		6.5 0.18				0.0				56	0	3		
9/2 1345		68	7.4	81	195	7.3 7.5	1.4 0.70	8.0 0.66	14 0.61	1.1 0.03	0 0.00	91 1.49	9.0 0.19	8.1 0.23	1.6 0.03			0.0	20	ABS 0.0 AS 0.00 PO <sub>4</sub> 0.25		68	0	5		



TABLE D-2

# ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

DUTCH SLOUGH AT FARRAR PARK BRIDGE (STA. 1086)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by 1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
			ppm	% Sat		Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
																								Total	N.C. ppm																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
10/16/63 1140		65			262															180																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																



**TABLE D-2**  
**ANALYSES OF SURFACE WATER**  
 CENTRAL VALLEY REGION (NO. 5)  
 FLIDER CREEK AT GERBER (STA. 95a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform MPN/ml	Analyzed by 1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
10/11/63	Not Sampled		--	No Flow																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										</



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
ELDER CREEK NEAR PASKENTIA (STA. 13e)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen	Specific conductance (microhmhos at 25°C)	pH a/b	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub> in ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by	
						equivalents per million																
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)
10/9/63 1330	5.6	69	9.6	108	747	8.3 8.5	4.88 <sup>c</sup>	58 2.52		8 0.27	210 3.44		122 3.44		0.0			34	244	59	1	USGS
11/5 1255	31	55	10.3	99	471	8.1 8.2	3.92 <sup>c</sup>	23 1.00		0 0.00	210 3.44		42 1.18		0.0			20	196	24	7	
12/3 1600	32	48	11.6	102	390	8.3 8.4	3.48 <sup>c</sup>	17 0.74		4 0.13	188 3.08		23 0.65		0.2			18	174	13	1	
1/7/64 1030	17	45			494	8.3 8.8	4.16 <sup>c</sup>	28 1.22		16 0.53	200 3.28		47 1.33		0.0			23	208	18	1	
2/4 1440	40	50	11.2	96	347	8.4 8.6	3.10 <sup>c</sup>	13 0.57		6 0.20	164 2.69		18 0.51		0.0			16	155	11	1	
3/3 1335	20	52	11.1	102	427	8.5 8.6	3.72 <sup>c</sup>	21 0.91		7 0.23	188 3.08		38 1.07		0.1			20	186	20	1	
4/8 1105	22	59	10.2	102	392	8.4 8.5	3.18 <sup>c</sup>	20 0.87		5 0.17	166 2.72		33 0.93		0.0			21	159	15	2	
5/5 1000	20	55	11.0	105	391	8.4 8.6	2.9 1.45	20 1.67	0.8 0.02	7 0.23	161 2.64	2.0 0.19	35 0.99	0.7 0.01	0.2 0.01	0.0	14 ABS 0.0 PO <sub>4</sub> 0.00 As 0.00	22	156	12	1	
6/10 1315	16	67	9.8	108	488	8.4 8.6	3.74 <sup>c</sup>	30 1.30		8 0.27	176 2.88		58 1.64		0.1			26	187	30	1	
7/8 0945	1.7	76	9.8	118	783	8.4 8.5	4.28 <sup>c</sup>	68 2.96		8 0.27	140 2.29		165 4.65		0.1			41	214	86	1	
8/4 1035	1.0	77	9.5	115	1570	8.4 8.4	7.16 <sup>c</sup>	158 6.87		4 0.13	96 1.57		422 11.90		0.2			49	358	273	5	
9/3 1015	0.6	62	10.0	104	2400	8.1 8.2	4.9 1.94	70 5.78	4.4 0.11	0 0.00	134 2.20	16 0.33	660 18.62	0.2 0.00	0.4	17 ABS 0.0 PO <sub>4</sub> 0.00 As 0.00	1420 <sup>f</sup>	48	536	426	2	



TABLE D-2

[illegible]

TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

FEATHER RIVER, MIDDLE FORK NEAR MERRIMAC (STA. 19b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (microhms at 25°C)	pH at 25°C	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>b</sup> MPN/ml	Analyzed by <sup>c</sup>	
			ppm	% Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents
10/9/63 1240	215	58	9.6	100	144	7.4 8.0	1.22 <sup>c</sup>	5.1 0.22	0 0.00	78 1.28	0 0.00	0 0.00	3.8 0.11	0.0	0.0	0	1	Median 2.3	USGS					
11/6 1150	1860	46	11.5	103	81	7.1 7.1	0.69 <sup>c</sup>	2.4 0.10	0 0.00	40 0.66	0 0.00	0 0.00	1.8 0.05	0.0	0.0	1	20	Maximum 23.						
12/5 1140	594	41	12.5	104	108	7.2 7.5	0.90 <sup>c</sup>	4.3 0.19	0 0.00	59 0.97	0 0.00	0 0.00	1.0 0.03	0.1	0.1	0	2	Minimum 0.3						
1/9/64 1115	Sample Broken in Transit																							
2/6 1140	700	38	13.1	104	117	7.2 8.0	0.98 <sup>c</sup>	5.1 0.22	0 0.00	62 1.02	0 0.00	0 0.00	3.0 0.08	0.0	0.0	0	1							
3/4 1130	Not Sampled - Road Impassable																							
4/9 1140	1360	48	11.4	104	98	7.4 8.2	0.82 <sup>c</sup>	4.8 0.21	0 0.00	54 0.89	0 0.00	0 0.00	2.5 0.07	0.0	0.0	0	3							
5/7 1035	1370	48	11.5	105	85	7.4 7.9	10 0.50	3.6 0.16	0 0.00	46 0.75	0 0.00	0 0.00	2.5 0.07	0.7 0.01	0.2 0.01	15	2	61 <sup>f</sup> 53g						
6/9 1120	1170	49	10.9	101	80	7.2 8.0	0.67 <sup>c</sup>	3.4 0.15	0 0.00	43 0.70	0 0.00	0 0.00	1.0 0.03	0.0	0.0	0	2							
7/13 1255	262	73	8.6	106	122	8.0 8.2	1.05 <sup>c</sup>	5.1 0.22	0 0.00	66 1.08	0 0.00	0 0.00	1.5 0.04	0.0	0.0	0	2							
8/14 1145	159	72	9.1	111	142	8.1 8.2	1.20 <sup>c</sup>	5.7 0.25	0 0.00	76 1.25	0 0.00	0 0.00	2.0 0.06	0.0	0.0	0	2							
9/11 1045	144	62	10.0	109	149	7.9 8.1	19 0.95	6.2 0.27	1.1 0.03	79 1.29	8.0 0.17	2.6 0.07	0.6 0.01	0.0	14	ABS 0.0 PO <sub>4</sub> 0.3	AS 0.00	0	1	94 <sup>f</sup> 89g				



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
FEATHER RIVER AT NICOLAUS (STA. 20)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)	Silica (SiO <sub>2</sub> )					
			ppm	%Sat														Total ppm	N.C. ppm			
10/9/63 1020	1400	66	9.2	99	126	1.06 <sup>c</sup>		4.6 0.20		0 0.00	68 1.11		3.5 0.10			0.0		53	0	2	Median 23.	USGS
11/7 0945	8220	53	9.7	89	125	1.04 <sup>c</sup>		4.9 0.21		0 0.00	63 1.03		4.4 0.12			0.0		52	0	45	Maximum 620.	
12/5 0900	5000	45	11.8	98	103	0.86 <sup>c</sup>		3.5 0.15		0 0.00	55 0.90		1.0 0.03			0.1		43	0	10	Minimum 0.62	
1/7/64 0910	3950	44	12.3	100	110	0.92 <sup>c</sup>		4.6 0.20		0 0.00	58 0.95		3.8 0.11			0.0		46	0	3		
2/6 0940	5450	44	12.1	98	103	0.88 <sup>c</sup>		4.4 0.19		0 0.00	52 0.85		2.9 0.08			0.0		42	0	25		
3/3 0900	4060	45	12.0	99	109	0.92 <sup>c</sup>		4.5 0.20		0 0.00	58 0.95		3.8 0.11			0.0		46	0	5		
4/9 0930	5840	55	10.8	102	101	0.86 <sup>c</sup>		4.3 0.19		0 0.00	54 0.89		2.0 0.06			0.0		43	0	5		
5/5 0730	4300	54	10.6	98	84	9.0 0.45	3.4 0.28	3.2 0.14	0.4 0.01	0 0.00	43 0.70	3.0 0.06	2.8 0.08	1.0 0.02	0.1 0.01	0.0	15	36	1	2		
6/10 0845	4540	59	9.6	95	81	0.69 <sup>c</sup>		3.3 0.14		0 0.00	42 0.69		1.0 0.03			0.0		34	0	3		
7/10 1245	762	82	8.5	108	128	1.08 <sup>c</sup>		5.1 0.22		0 0.00	69 1.13		2.0 0.06			0.0		54	0	5		
8/7 1345	500 (est)	85	8.3	107	139	1.20 <sup>c</sup>		5.9 0.26		0 0.00	74 1.21		2.5 0.07			0.0		60	0	10		
9/4 1445	750 (est)	78	9.0	109	135	14 0.70	5.6 0.46	6.4 0.28	1.3 0.03	0 0.00	74 1.21	5.0 0.10	4.0 0.11	0.5 0.01		0.0	12	58	0	5		

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
FEATHER RIVER, NORTH FORK AT BIG BAR (STA. 19A)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH at 25°C	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent acid-soluble in ppm	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform MPN/ml	Analyzed by		
			ppm	% Sat			equivalents per million																		
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents	
10/9/63 1420	57	63	10.3	111	110	7.4 8.0	0.92 <sup>c</sup>		4.0 0.17		0 0.00	62 1.02		2.2 0.06			0.0				46	0	1	Median 2.3	USGB
11/7 1540	47	49	11.3	103	106	7.2 8.0	0.96 <sup>c</sup>		3.3 0.14		0 0.00	62 1.02		2.1 0.06			0.0				48	0	2	Maximum 13.	
12/5 1145	61	45	12.9	111	113	8.1 7.9	0.96 <sup>c</sup>		3.6 0.16		0 0.00	65 1.07		0.5 0.01			0.1				48	0	1	Minimum 0.62	
1/9/64 1035	61	40	13.0	104	119	7.5 8.1	1.02 <sup>c</sup>		4.5 0.20		0 0.00	68 1.11		3.0 0.08			0.0				51	0	1		
2/6 1155	68	43	12.5	105	126	7.7 8.2	1.14 <sup>c</sup>		4.3 0.19		0 0.00	73 1.20		0.8 0.02			0.0				57	0	1		
3/5/64 1010	49	43	11.3	101	124	7.7 8.2	1.08 <sup>c</sup>		4.7 0.20		0 0.00	72 1.18		1.8 0.05			0.0				54	0	2		
4/9 1205	70	51	11.8	110	108	7.9 8.3	0.98 <sup>c</sup>		3.8 0.17		1 0.03	62 1.02		2.2 0.06			0.0				49	0	3		
5/7 1015	51	52	11.9	112	98	7.7 8.2	9.6 0.48	5.4 0.44	3.8 0.17	0.5 0.01	0 0.00	58 0.95	3.0 0.06	1.8 0.05	0.9 0.01	0.2 0.01	0.0	1.9	ABS 0.0 PO <sub>4</sub> 0.05 As 0.00	46	0	1			
6/10 1130	46	55	10.8	106	101	7.7 8.0	0.88 <sup>c</sup>		3.7 0.16		0 0.00	58 0.95		1.0 0.03			0.0				44	0	1		
7/3 1530	53	74	9.8	119	118	8.0 8.2	1.04 <sup>c</sup>		4.9 0.21		0 0.00	70 1.15		1.0 0.03			0.0				52	0	1		
8/14 1430	52	75	10.4	127	110	8.2 8.1	0.94 <sup>c</sup>		4.8 0.21		0 0.00	65 1.07		1.5 0.04			0.0				47	0	2		
9/10 1530	53	70	12.3	143	115	8.3 8.0	13 0.65	4.3 0.35	5.1 0.22	1.2 0.03	0 0.00	68 1.11	2.0 0.04	1.0 0.03	1.3 0.02		0.0	1.2	ABS 0.0 PO <sub>4</sub> 0.00 As 0.00	50	0	1			



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
FEATHER RIVER NEAR OROVILLE (STA. 19)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in equivalents per million										parts per million			Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Nit- rate (NO <sub>3</sub> )	Fluo- ride (F)	Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents							
10/9/63 1300	1340	63	9.9	103	111	7.4 8.0	0.92 <sup>a</sup>		4.2 0.15		0.00	62 1.02		3.0 0.03			0.0					16	0	5	Median 2.3	USGS
11/6 1430	9120	50	11.7	104	81	7.1 7.4	0.67 <sup>a</sup>		3.0 0.13		0.00	42 0.59		2.0 0.05			0.0					16	0	2	Maximum 230.	
12/5 1320	3900	43	13.4	109	102	7.2 8.0	0.86 <sup>a</sup>		3.8 0.17		0.00	63 1.03		0.5 0.01			0.1					17	0	3	Minimum 0.13	
1/9/64 1300	2000	41	13.9	110	110	7.2 8.1	0.92 <sup>a</sup>		4.8 0.21		0.00	62 1.02		3.0 0.03			0.0					19	0	1		
2/6 1325	2910	42	13.6	109	107	7.2 8.1	0.90 <sup>a</sup>		4.6 0.20		0.00	59 0.97		1.5 0.04			0.0					18	0	1		
3/4 1325	3110	45	13.3	111	113	7.8 8.2	0.94 <sup>a</sup>		5.1 0.22		0.00	62 1.02		4.0 0.11			0.0					19	0	2		
4/9 1330	4450	51	12.1	109	99	7.4 8.2	0.83 <sup>a</sup>		4.5 0.20		0.00	54 0.89		2.2 0.06			0.0					19	0	5		
5/7 1300	4050	50	12.3	110	90	7.3 8.0	0.50	3.4 0.23	3.4 0.15	0.5 0.01	0.00	49 0.80	2.0 0.04	2.8 0.03	0.1 0.00	0.3 0.02	0.0	1.5	ABS 0.0 PO <sub>4</sub> 0.00	As 0.00	16	0	2			
6/9 0905	3470	55	11.0	105	85	7.2 7.7	0.72 <sup>c</sup>		3.6 0.16		0.00	45 0.74		1.0 0.03			0.0					18	0	2		
7/9 1350	1990	70	9.4	106	118	8.0 8.2	1.06 <sup>c</sup>		5.2 0.23		0.00	72 1.13		1.0 0.03			0.0					18	0	3		
8/7 1000	2250	70	9.7	109	114	7.7 7.9	0.96 <sup>c</sup>		5.3 0.23		0.00	66 1.03		1.5 0.04			0.0					19	0	5		
9/4 1115	1590	67	10.0	109	119	7.9 8.0	0.70	3.9 0.32	5.1 0.22	1.2 0.03	0.00	70 1.15	2.0 0.04	1.4 0.04	0.6 0.01		0.0	1.2	ABS 0.1 PO <sub>4</sub> 0.00	As 0.00	17	0	1			

TABLE D-2



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

FEATHER RIVER, SOUTH FORK BELOW PONDEROSA DAM (STA. 19c)

Date and time sampled P.S.T	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform MPN/ml	Analyzed by
			ppm	%Sat			equivalents per million																
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )			
10/9/63 0820	144	60	9.6	99	48	7.1 7.4	0.37	2.0 0.09		0	24 0.39		2.2 0.06			0.0		18	0	1	Median 2.1	USGS	
11/6 0900	171	54	10.5	101	54	6.8 7.7	0.42	2.2 0.10		0	27 0.44		3.0 0.08			0.0		21	0	9	Maximum 6.2		
12/5 0900	148	46	11.9	103	49	6.8 7.4	0.38	1.6 0.07		0	24 0.39		0.5 0.01			0.1		19	0	6	Minimum 0.23		
1/9/64 0830	125	42	12.5	102	50	6.8 7.7	0.40	1.9 0.08		0	24 0.39		3.5 0.10			0.0		20	0	1			
2/6 0900	160	42	12.8	104	51	6.8 7.7	0.41	2.3 0.10		0	26 0.43		1.0 0.03			0.0		20	0	3			
3/4 0950	142	44	12.5	105	51	7.3 7.9	0.40	2.4 0.10		0	25 0.41		2.1 0.06			0.0		20	0	2			
4/9 0855	26	52	10.7	100	63	7.3 7.9	0.52	3.2 0.14		0	35 0.57		2.0 0.06			0.0		26	0	2			
5/7 0755	37	52	9.8	92	62	7.4 7.8	7.2 0.36	3.2 0.14	0.3 0.01	0	32 0.52	3.0 0.06	3.0 0.08	0.7 0.01	0.0 0.00	0.0 14	ABS 0.0 PO <sub>4</sub> 0.00 As 0.00	26	0	1			
6/9 0745	25	52	10.1	103	54	7.0 7.7	0.43	2.5 0.11		0	27 0.44		1.0 0.03			0.0		22	0	2			
7/13 1020	16	66	9.5	95	49	7.2 7.7	0.40	2.2 0.10		0	25 0.41		0.5 0.01			0.0		20	0	10			
8/14 0830	25	62	9.7	102	48	7.5 7.7	0.39	2.1 0.09		0	24 0.39		1.0 0.03			0.0		20	0	3			
9/11 0815	22	63	9.8	105	47	7.3 7.6	6.0 0.30	2.3 0.10	0.5 0.01	0	23 0.38	2.0 0.04	0.7 0.02	0.6 0.01		0.0 12	ABS 0.0 PO <sub>4</sub> 0.00 As 0.00	19	0	1			

TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

GRANT LINE CANAL AT TRACY ROAD BRIDGE (STA. 103a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform MPN/ml	Analyzed by			
			ppm	%Sat		Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents		
10/8/63 1145	Tidal	69	9.2	102	722	7.5 8.2	3.36 <sup>c</sup>		76 3.31		0 0.00	154 2.52		115 3.24		0.0			420 <sup>e</sup>	50	168	42	15	Median 23.	USGS
11/5 1045		58	8.6	84	474	7.5 8.1	2.09 <sup>c</sup>		50 2.18		0 0.00	87 1.43		74 2.09		0.1			276 <sup>e</sup>	51	105	34	9	Maximum 1300.	
12/3 0930		49	9.4	82	357	7.2 7.8	1.62 <sup>c</sup>		38 1.65		0 0.00	74 1.21		49 1.38		0.1			208 <sup>e</sup>	50	81	20	6	Minimum 2.3	
1/10/64 1010		48	10.6	91	464	7.4 8.0	1.98 <sup>c</sup>		49 2.13		0 0.00	87 1.43		69 1.95		0.1			270 <sup>e</sup>	52	99	28	6		
2/4 1245		51	10.0	90	658	7.3 8.1	2.88 <sup>c</sup>		66 2.87		0 0.00	108 1.77		97 2.74		0.3			383 <sup>e</sup>	50	144	55	9		
3/5 1030		53	14.0	128	1140	8.5 8.4	3.08 <sup>c</sup>		127 3.52		4 0.13	150 2.48		216 6.09		0.4			663 <sup>e</sup>	52	254	124	10		
4/9 0955		62	15.7	160	1050	8.7 8.1	4.80 <sup>c</sup>		113 4.92		0 0.00	168 2.75		190 5.36		0.4			611 <sup>e</sup>	51	240	102	15		
5/8 0945		61	13.9	140	1070	8.7 7.7	60 2.99	24 2.01	119 5.18	4 0.10	0 0.00	182 2.98	75 1.56	200 5.64	6.6 0.11	0.3 0.02	21	ABS 0.1 As 0.01 PO <sub>4</sub> 0.60	600 <sup>f</sup> 611 <sup>g</sup>	50	250	101	30		
6/11 0915		67	7.3	79	1200	8.3 8.2	3.40 <sup>c</sup>		130 3.66		0 0.00	194 3.18		215 6.07		0.3			698 <sup>e</sup>	51	270	111	7		
7/6 1000		71	8.8	99	1190	8.3 8.3	3.68 <sup>c</sup>		126 5.48		8 0.27	182 2.98		235 6.63		0.4			693 <sup>e</sup>	49	284	122	5		
8/6 0930		76	7.6	84	796	8.1 7.8	3.66 <sup>c</sup>		84 3.65		0 0.00	136 2.23		147 4.15		0.4			464 <sup>e</sup>	50	183	71	35		
9/3 0930		71	9.0	102	1210	8.1 7.9	62 3.09	30 2.47	135 5.87	2.4 0.06	0 0.00	205 3.36	75 1.56	232 6.54	3.9 0.06	0.4	20	ABS 0.1 As 0.00 PO <sub>4</sub> 0.55	662 <sup>f</sup> 687 <sup>g</sup>	51	278	110	10		



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
DIAN CREEK NEAR CRESCENT MILLS (STA. 17'd)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH at 25°C	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>	
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents
11/7/63 1330	300	45	9.9	93	136	7.0 7.7	1.16 <sup>c</sup>	5.7 0.25		0 0.00	73 1.20		3.5 0.10		0.0			93 <sup>e</sup>	19	55	0	45	Median 7.0	USGS
1/9/64 0900	134	34	11.8	94	153	7.3 8.2	1.27 <sup>c</sup>	7.6 0.33		0 0.00	84 1.38		4.6 0.13		0.0			104 <sup>e</sup>	21	63	0	2	Maximum 23.	
3/5 0810	224	38	10.3	87	142	7.5 8.2	1.16 <sup>c</sup>	7.0 0.30		0 0.00	97 1.29		3.8 0.11		0.0			97 <sup>e</sup>	21	58	0	8	Minimum 2.3	
5/7 0745	780	43	10.9	100	98	7.3 7.7	1.3 0.65 <sup>c</sup>	2.3 0.23	0.7 0.02	0 0.00	57 0.93	3.0 0.06	1.5 0.04	0.7 0.01	0.3 0.03	0.0	23	78 f 34 g	21	42	0	10		
7/15 0915	23	67	7.8	96	226	6.9 8.0	1.86 <sup>c</sup>	11 0.48		0 0.00	130 2.13		4.5 0.13		0.0			154 <sup>e</sup>	21	93	0	2		
9/16 0915	11	57	9.1	100	258	7.1 8.3	1.50	15 0.65	1.8 0.05	2 0.07	141 2.31	2.0 0.19	7.2 0.20	1.4 0.02	0.1	27	ABS 3.0 As 0.00 PO <sub>4</sub> 0.15	20 f 156 g	23	104	0	2		

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
INDIAN SLOUGH NEAR BRENTWOOD (STA. 107)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent acid- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>b</sup> MPN/ml	Analyzed by <sup>i</sup>		
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents	
10/9/63 0930	Tidal	68	6.7	73	457	7.3 8.3	2.24 <sup>c</sup>	45 1.96		1 0.03	117 1.92		57 1.61			0.3		255 <sup>e</sup>	47	112	14	20	Median 23.	USGS	
11/6 1210		59	7.5	74	876	7.7 8.3	3.78 <sup>c</sup>	101 4.39		1 0.03	191 3.13		117 3.30			1.8		488 <sup>e</sup>	54	189	30	8	Maximum 2400.		
12/4 1345		50	11.3	100	1100	8.4 8.3	5.44 <sup>c</sup>	124 5.39		4 0.13	248 4.06		144 4.06			1.1		613 <sup>e</sup>	50	272	62	9	Minimum 2.3		
1/8/64 1020		49	10.2	89	1370	8.2 8.6	7.16 <sup>c</sup>	154 6.70		16 0.53	342 5.61		183 5.16			2.2		763 <sup>e</sup>	48	358	51	6			
2/5 1250		51	7.4	66	1340	8.4 8.5	5.56 <sup>c</sup>	166 7.22		10 0.33	308 5.05		159 4.49			2.7		746 <sup>e</sup>	56	278	9	2			
3/6 1010		52	9.9	90	1150	8.3 8.3	5.24 <sup>c</sup>	127 5.52		1 0.03	184 3.02		175 4.94			1.4		641 <sup>e</sup>	51	262	108	15			
4/8 1150		60	9.0	90	354	7.7 8.1	1.98 <sup>c</sup>	34 1.48		0 0.00	92 1.51		39 1.10			0.2		197 <sup>e</sup>	43	99	24	50			
5/6 1015		59	8.8	87	268	7.5 7.8	18 0.90	8.3 0.68	23 1.00	1.4 0.04	0 0.00	82 1.34	22 0.46	29 0.82	2.1 0.03	0.2 0.01	18	ABS 0.1 AS 0.00 PO <sub>4</sub> 0.20	162 <sup>f</sup> 153 <sup>g</sup>	38	79	12	30		
6/9 1220		65	7.5	79	321	7.5 8.1	1.72 <sup>c</sup>	32 1.39		0 0.00	91 1.49		35 0.99			0.3		179 <sup>e</sup>	45	86	11	30			
7/2 1015		69	6.1	67	289	7.3 8.2	1.80 <sup>c</sup>	28 1.22		0 0.00	94 1.54		30 0.85			0.2		161 <sup>e</sup>	40	90	13	30			
8/10 1045		78	7.0	85	633	7.5 8.3	2.18 <sup>c</sup>	79 3.44		1 0.03	85 1.39		129 3.64			0.2		352 <sup>e</sup>	61	109	38	50			
9/8 1200		73	7.6	88	720	7.7 7.6	18 0.90	20 1.62	88 3.83	3.5 0.09	0 0.00	105 1.72	40 0.83	141 3.98	1.3 0.02		0.5	12	ABS 0.1 AS 0.00 PO <sub>4</sub> 0.20	376 <sup>f</sup> 412 <sup>g</sup>	59	126	40	20	



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
ITALIAN SLOUGH NEAR MOUTH (STA. 106)

[illegible]

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
LINDSEY SLOUGH NEAR RIO VISTA (STA. 110)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH $\frac{a}{b}$	Mineral constituents in equivalents per million										Other constituents		Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub> Total ppm	Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by i
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)	Boron (B)	Silica (SiO <sub>2</sub> )						

10/9/63 1130	Tidal	69	8.0	89	223	7.3 8.0	15 0.65					0 0.00	99 1.62		13 0.37			0.0			136 <sup>e</sup>	29	78	0	35	Median 23.		USGS
11/8 1100		58	8.8	86	200	7.7 8.0	12 0.52					0 0.00	92 1.51		9.5 0.27			0.1			122 <sup>e</sup>	27	71	0	35	Maximum 230.		
12/5 1045		47	9.6	81	276	7.2 8.0	22 0.96					0 0.00	104 1.70		19 0.54			0.2			168 <sup>e</sup>	35	89	4	40	Minimum 1.3		
1/8/64 0915		44	11.0	90	234	7.5 8.1	17 0.74					0 0.00	97 1.59		13 0.37			0.0			143 <sup>e</sup>	31	84	4	10			
2/6 1030		46	10.5	88	359	7.5 7.8	28 1.22					0 0.00	117 1.92		27 0.76			0.3			219 <sup>e</sup>	37	105	9	65			
3/4 0915		49	10.6	92	269	7.5 8.2	20 0.87					0 0.00	103 1.69		18 0.51			0.2			164 <sup>e</sup>	31	95	11	10			
4/8 1025		58	9.8	96	260	7.9 8.2	18 0.78					0 0.00	98 1.61		16 0.45			0.1		Color 5 Odor 1.4	158 <sup>e</sup>	31	87	7	25			
5/6 0950		58	9.5	93	215	8.1 8.0	15 0.65	2.4 0.77	1.5 0.04	0 0.00	87 1.43	17 0.35	15 0.42	2.6 0.04	0.2 0.01	0.1	17	0.1	ABS 0.0 As 0.00 PO <sub>4</sub> 0.30 Color 5 Odor 2	136 <sup>f</sup> 124 <sup>g</sup>	29	76	5	65				
6/10 0945		64	8.3	87	246	7.7 7.9	18 0.78				0 0.00	99 1.62		14 0.39				0.1			149 <sup>e</sup>	31	85	4	65			
7/8 0945		69	8.2	91	231	7.7 8.2	21 0.91				0 0.00	97 1.59		11 0.31				0.2			146 <sup>e</sup>	35	83	3	110			
8/5 1030		73	8.2	95	214	7.7 7.8	16 0.70				0 0.00	92 1.51		8.5 0.24				0.2			130 <sup>e</sup>	32	74	0	50			
9/2 1015		73	8.0	92	218	7.6 8.1	16 0.75	2.4 0.77	2.2 0.06	0 0.00	94 1.54	14 0.29	12 0.34	1.5 0.02		0.1	19	0.1	ABS 0.0 As 0.00 PO <sub>4</sub> 0.35	135 <sup>f</sup> 151 <sup>g</sup>	31	76	0	70				



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
LITTLE POTATO SLOUGH AT TERMINOUS (STA. 99)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH at 5	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub>		Tur-bid-ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>			
			ppm	%Sat			Calcium (Ca)	Magne-sium (Mg)	Sodium (Na)	Potas-sium (K)	Carbon-ate (CO <sub>3</sub> )	Bicar-bonate (HCO <sub>3</sub> )	Sul-fate (SO <sub>4</sub> )	Chlo-ride (Cl)	Ni-trate (NO <sub>3</sub> )	Fluo-ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents	Total ppm	N.C. ppm
11/8/63 0930	Tidal	58	8.3	81	176	7.3 7.8	1.22 <sup>e</sup>		10 0.44		0 0.00	72 1.15		13 0.37		0.2					61	2	15	Median 23.	USGS	
1/6/64 1400		45	10.5	87	234	7.2 8.2	1.56 <sup>e</sup>		16 0.70		0 0.00	79 1.29		24 0.68		0.0					78	13	10	Maximum 230.		
3/4 1045		50	10.4	92	193	7.3 8.1	1.36 <sup>e</sup>		13 0.57		0 0.00	38 0.62		14 0.39		0.1					68	37	10	Minimum 2.3		
5/4 1245		60	9.5	95	213	7.6 7.5	1.5 0.75	8.1 0.67	13 0.57	1.3 0.03	0 0.00	68 1.11	80 0.11	26 0.73	1.4 0.02	0.0 0.00	0.0	17	ABS 0.1 PO <sub>4</sub> 0.20	71	15	20				
7/2 1230		73	7.4	85	219	7.3 8.2	1.56 <sup>e</sup>		15 0.65		0 0.00	82 1.34		21 0.59		0.1					78	11	40			
9/8 1415		69	6.7	74	234	7.3 8.0	1.7 0.85	8.4 0.69	17 0.74	1.6 0.04	0 0.00	98 1.61	10 0.21	15 0.42	1.8 0.03		0.2	19	ABS 0.1 PO <sub>4</sub> 0.25	77	0	10				

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
McCLOUD RIVER ABOVE SHASTA LAKE (STA. 18)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub> Total ppm	Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>
						parts per million															
			ppm	%Sat		Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)						
10/7/63 1030	1050	50	11.0	101	95	7.6 8.1	4.6 0.20	4.4 0.19	0 0.00	54 0.89	1.0 0.02	2.9 0.08	0.0			22	36	1	Median 6.2	USGS	
11/4 1330	1390	49	10.7	97	96	7.4 7.8	4.4 0.19	4.5 0.20	0 0.00	53 0.87		2.0 0.06	0.0			20	38	3	Maximum 62.		
12/2 1300	1370	45	11.9	102	97	7.6 7.9	4.5 0.20	4.5 0.20	0 0.00	55 0.90		0.5 0.01	0.1			21	38	0	Minimum 0.23		
1/6/64 1105	1150	44	12.2	103	98	7.3 8.1	5.4 0.23	5.4 0.23	0 0.00	53 0.87		2.6 0.07	0.0			23	38	0			
2/3 1115	1730	44	12.4	105	95	7.5 8.1	4.5 0.20	4.5 0.20	0 0.00	53 0.87		2.4 0.07	0.0			20	39	0			
3/4 1105	1240	46	12.1	105	98	7.5 8.2	4.9 0.21	4.9 0.21	0 0.00	54 0.89		3.0 0.08	0.0			21	39	0			
4/7 1040	1300	47	11.7	103	97	7.5 8.1	5.4 0.23	5.4 0.23	0 0.00	55 0.90		2.7 0.08	0.0			22	40	0			
5/5 1120	1260	47	11.7	103	95	7.7 8.0	4.7 0.20	4.7 0.20	1.1 0.03	52 0.85	1.0 0.02	2.8 0.08	0.5 0.01	0.0 0.00	32 ABS 0.0 PO <sub>4</sub> 0.05	20	38	0	80 <sup>f</sup>		
6/9 1030	1300	50	11.1	102	97	7.6 8.2	5.2 0.23	5.2 0.23	0 0.00	54 0.89		1.0 0.03	0.1			23	40	0			
7/6 1045	1000	55	10.6	104	101	7.9 8.2	5.6 0.24	5.6 0.24	0 0.00	60 0.98		1.0 0.03	0.0			23	40	0			
8/4 1025	931	54	10.9	105	96	7.7 8.0	5.5 0.24	5.5 0.24	0 0.00	54 0.89		1.0 0.03	0.0			24	38	0			
9/1 1045	924	50	11.0	101	98	7.7 7.9	5.5 0.24	5.5 0.24	1.5 0.04	55 0.90	1.0 0.02	1.2 0.03	2.3 0.04		36 ABS 0.0 PO <sub>4</sub> 0.10	23	38	0	78 <sup>f</sup>		



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
MILL CREEK NEAR MOUTH (STA. 88)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by i		
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents	
10/7/63	Not Sampled		--	No Flow																					
11/7 1205	380 est.	51	11.2	101	215	7.3 7.7	1.20 <sup>c</sup>		17 0.74		0.00	40 0.66		19 0.54			0.6			60	27	15	Median 9.6	USGS	
12/5 1230	320 est.	46	12.0	102	192	7.4 8.0	1.06 <sup>c</sup>		16 0.70		0.00	51 0.84		18 0.51			0.5		53	11	2	Maximum 62.			
1/8/64 1210	300 est.	45	12.3	103	196	7.5 8.0	1.08 <sup>c</sup>		17 0.74		0.00	54 0.89		20 0.56			0.5		54	10	1	Minimum 0.5			
2/5 1340	350 est.	49	11.7	103	164	7.5 8.1	0.96 <sup>c</sup>		14 0.61		0.00	52 0.85		14 0.39			0.4		48	5	2				
3/3 1340	250 est.	49	11.6	102	186	7.6 8.0	1.02 <sup>c</sup>		16 0.70		0.00	42 0.69		19 0.54			0.6		51	17	0				
4/6 1515	250 est.	58	10.3	101	164	7.6 8.0	0.94 <sup>c</sup>		13 0.57		0.00	47 0.77		14 0.39			0.4		47	8	2				
5/4 1050	230 est.	53	11.2	104	144	7.4 7.6	1.0 0.50	3.9 0.32	11 0.48	2.0 0.05	0.00	38 0.62	17 0.35	12 0.34	1.2 0.02	0.1 0.01	0.4	32	41	10	2				
6/8 1000	200 est.	60	10.0	101	144	7.2 7.8	0.78 <sup>c</sup>		10 0.44		0.00	33 0.54		8.0 0.23			1.1	ABS 0.0 PO <sub>4</sub> 0.05	36	39	12	7			
7/8 1155	2 est.	81	8.7	109	190	7.9 7.9	1.16 <sup>c</sup>		14 0.61		0.00	56 0.92		14 0.39			0.4		58	12	5				
8/6	Not Sampled		--	No Flow																					
9/3 1620	3 est.	71	9.2	105	208	8.2 7.9	1.4 0.70 <sup>c</sup>	5.6 0.46	17 0.74	2.7 0.07	0.00	62 1.02	18 0.37	21 0.59	0.5 0.01		0.6	ABS 0.0 PO <sub>4</sub> 0.10	38	58	7	2			

TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

MOKELUMNE RIVER BELOW COSUMES RIVER (STA. 23b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub> Total ppm	Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by <sup>1</sup>			
			ppm	%Sat		Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents
10/15/63 1310		66			81			3.9											72	21		UEBR		
11/12 1300		57			83			4.1											92	21				
2/18/64 1100		50			128			4.1											80	14				
3/9 1220		52			129			4.1											112	13				
4/15 1335		67			67			2.8											80	18				
5/11 1535		70			188			21											132	49				
6/22 1540		74			90			4.1											80	20				
7/20 1445		78			171			11											124	28				
8/13 1400		71			187			14											108	33				
9/22 1450		70			145			11											76	33				



# ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

MOKELUMNE RIVER BELOW GEORGIANA SLOUGH (STA. 23c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in equivalents per million										Total dis- solved solids in ppm g	Per- cent solid - ium	Hardness as CaCO <sub>3</sub> ppm		Tur- bid- ity in ppm	Coliform <sup>b</sup> MPN/ml	Analyzed by <sup>c</sup>	
			ppm	% Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents
10/15/63 1150		67			160		8.5												128	23			UBBR	
11/12 1210		56			164		10												128	26				
2/18/64 1325		50			181		9.2												108	22				
3/9 1040		51			166		9.2												120	24				
4/14 1345		60			158		8.1												144	22				
5/11 1300		64			212		17												156	39				
6/22 1315		74			195		14												148	31				
7/20 1315		75			155		11												112	31				
8/13 1245		69			218		16												144	32				
9/22 1330		69			190		14												156	32				

TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

MOKELUMNE RIVER NEAR LANCHA PLANA (STA. 23a.)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH @ 5	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium in ppm	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by 1			
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents		
11/6/63 0830	Not Rated	55	9.8	93	48	6.9 7.2	0.34		2.0 0.09		0 0.00	14 0.23		2.8 0.08			0.0				38 <sup>e</sup> 17	21	6	9	Median 0.95	USGS
1/6/64 0900		47	11.6	99	35	6.7 7.5	0.22		2.0 0.09		0 0.00	14 0.23		3.2 0.09			0.1				28 <sup>e</sup> 11	29	0	3	Maximum 23.	
3/2 1000		45	12.0	100	96	6.4 7.0	0.67		4.2 0.18		0 0.00	12 0.20		2.5 0.07			0.0				76 <sup>e</sup> 34	21	24	2	Minimum 0.006	
5/4 0815		52	10.6	97	57	6.9 7.3	5.2 0.26	1.8 0.15	3.3 0.14	0.7 0.02	0 0.00	18 0.30	8.0 0.17	4.2 0.12	0.1 0.00	0.0 0.00		0.0	9.3	ABS 0.0 PO <sub>4</sub> 0.00	42 <sup>f</sup> 408	25	5	1		
7/3 0930		52	12.4	113	46	7.1 7.7	0.30		3.0 0.13		0 0.00	19 0.31		1.5 0.04			0.0				36 <sup>e</sup> 15	30	0	1		
9/17 0845		53	10.5	97	52	6.6 7.0	5.6 0.28	1.0 0.08	3.0 0.13	0.5 0.01	0 0.00	20 0.33	6.0 0.12	1.9 0.05	0.0 0.00		0.0		ABS 0.0 PO <sub>4</sub> 0.00	39 <sup>f</sup> 428	26	2	1			



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
MOKELUNNE RIVER AT WOODBRIDGE (STA. 23)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>				
							equivalents per million												Total ppm	N.C. ppm							
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents			
11/6/63 1230	92	57	10.1	97	42	7.1 7.3	0.32 <sup>c</sup>		2.0 0.09		0 0.00	20 0.33		2.6 0.07				0.0			31 <sup>e</sup>	22	16	0	4	Median 13.	USGS
1/6/64 1430	62	45	12.2	101	45	7.1 7.7	0.31 <sup>c</sup>		2.6 0.11		0 0.00	20 0.33		3.5 0.10				0.1			33 <sup>e</sup>	26	16	0	4	Maximum 230.	
3/2 1515	15	51	11.4	102	52	7.0 7.7	0.38 <sup>c</sup>		3.8 0.17		0 0.00	22 0.36		3.2 0.09				0.0			38 <sup>e</sup>	31	19	1	2	Minimum 0.62	
5/4 0700	11	59	8.8	87	54	7.0 7.6	5.6 0.28	2.2 0.18	2.6 0.11	1.2 0.03	0 0.00	23 0.38	3.0 0.06	4.5 0.13	0.5 0.01	0.2 0.01		0.0	10	ABS 0.0 PO <sub>4</sub> 0.05	41 <sup>f</sup> 43 <sup>g</sup>	18	23	4	4		
7/3 1145	16	73	9.1	105	53	7.2 7.8	0.38 <sup>c</sup>		3.0 0.13		0 0.00	24 0.39		1.0 0.03				0.3			39 <sup>e</sup>	25	19	0	3		
9/1 1015	55	66	9.2	98	55	7.3 7.3	6.0 0.30	1.1 0.09	3.3 0.14	1.0 0.03	0 0.00	24 0.39	5.0 0.10	2.3 0.06	0.2 0.00			0.0	8.9	ABS 0.0 PO <sub>4</sub> 0.05	40 <sup>f</sup> 42 <sup>g</sup>	25	20	0	2		

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
OLD RIVER AT CLIFTON COURT FERRY (STA. 104)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by			
							parts per million																			
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents		
10/8/63 1000	Tidal	69	8.8	97	645	7.3 8.2	3.10 <sup>c</sup>	68 2.96		0 0.00	137 2.25		102 2.88				0.0			367 <sup>e</sup>	49	155	43	25	Median 23.	USGS
11/5 1215		59	8.3	82	528	7.3 8.1	2.36 <sup>c</sup>	55 2.39		0 0.00	95 1.56		84 2.37				0.1			300 <sup>e</sup>	50	118	40	15	Maximum 230.	
12/3 1045		49	8.7	76	411	7.3 7.9	1.88 <sup>c</sup>	49 1.91		0 0.00	78 1.28		58 1.64				0.2			234 <sup>e</sup>	50	94	30	10	Minimum 1.3	
1/10/64 1120		48	10.2	88	489	7.3 8.2	2.14 <sup>c</sup>	50 2.18		0 0.00	85 1.39		76 2.14				0.2			278 <sup>e</sup>	50	107	37	8		
2/4 1115		51	9.2	82	694	7.2 7.8	3.12 <sup>c</sup>	72 3.13		0 0.00	106 1.74		102 2.88				0.3			395 <sup>e</sup>	50	156	69	10		
3/5 1145		51	10.1	90	513	7.5 8.2	2.60 <sup>c</sup>	49 2.13		0 0.00	88 1.44		69 1.95				0.3			292 <sup>e</sup>	45	130	58	10		
4/9 1110		61	9.1	91	376	7.6 8.0	2.12 <sup>c</sup>	34 1.48		0 0.00	84 1.38		44 1.24				0.2			214 <sup>e</sup>	41	106	37	35		
5/8 1100		64	10.2	107	379	8.2 7.9	24 1.26	11 0.88	34 1.48	1.6 0.04	0 0.00	87 1.43	26 0.54	53 1.50	2.1 0.03	0.2 0.01	0.1	13	ABS 0.1 PO <sub>4</sub> 0.20	208 <sup>f</sup> 2268	41	104	33	30		
6/11 1030		68	7.2	79	257	7.3 8.0	1.52 <sup>c</sup>	21 0.91		0 0.91	82 0.00		26 1.34				0.1 0.73			146 <sup>e</sup>	37	76	9	30		
7/6 1145		76	7.6	90	359	7.5 8.2	2.00 <sup>c</sup>	34 1.48		0 0.00	93 1.52		46 1.30				0.3			204 <sup>e</sup>	43	100	24	30		
8/6 1045		77	6.6	79	427	7.3 8.2	1.78 <sup>c</sup>	48 2.09		0 0.00	80 1.31		75 2.12				0.2			243 <sup>e</sup>	54	89	23	20		
9/3 1100		73	8.0	92	826	7.9 7.9	39 1.95	20 1.65	93 4.05	3.4 0.09	0 0.00	139 2.28	53 1.10	155 4.37	2.2 0.04		0.2	14	ABS 0.0 PO <sub>4</sub> 0.30	448 <sup>f</sup> 4608	52	180	66	25		



TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

OLD RIVER AT HOLLAND TRACT (STA. 108a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent solid-ium	Hardness as CaCO <sub>3</sub>		Tur-bid-ity in ppm	Coliform MPN/ml	Analyzed by		
			ppm	%Sat			equivalents per million																		
							Calcium (Ca)	Magne-sium (Mg)	Sodium (Na)	Potas-sium (K)	Carbon-ate (CO <sub>3</sub> )	Bicar-bonate (HCO <sub>3</sub> )	Sul-fate (SO <sub>4</sub> )	Chlo-ride (Cl)	Ni-trate (NO <sub>3</sub> )	Fluo-ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents	
10/15/63 1340		68			273				23					27							208	37			USBR
11/12 1010		59			439				42					62							296	42			
12/18 1320		47			449	7.1	26	8.1	43	2.3	0.0	77	43	64	0.0						292	48			
1/13/64 1140		45			518				48					71							380	40			
2/10 0915		50			658				58					88							400	38			
3/9 1130		50			295				24					33							188	35			
4/15 1030		65			223				15					20							184	29			
5/11 1400		68			209				15					20							172	31			
6/22 1245		73			237				18					22							160	33			
7/20 1030					399				45					70							248	49			
8/10 1025		68			677				80					418							392	51			
9/17 1030		68			376				41					65							260	47			

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
OLD RIVER AT MANDEVILLE ISLAND (STA. 112)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>	
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents
10/7/63 0945	Tidal	68	7.4	70	227	7.1 8.0	1.46 <sup>c</sup>		17 0.74		0 0.00	91 1.49		18 0.51		0.0			73	0	15	Median 6.2	UEGS	
11/6 1325		59	8.7	86	289	7.7 7.7	1.64 <sup>c</sup>		25 1.09		0 0.00	92 1.51		31 0.87		0.0			82	7	8	Maximum 62.		
12/2 1330		49	8.7	76	436	7.3 7.7	2.14 <sup>c</sup>		42 1.83		0 0.00	88 1.44		61 1.72		0.1			107	35	20	Minimum 0.62		
1/8/64 0900		45	10.1	83	497	7.3 8.1	2.52 <sup>c</sup>		47 2.04		0 0.00	78 1.28		68 1.92		0.1			126	62	10			
2/3 1315		51	9.1	82	527	7.1 7.7	2.72 <sup>c</sup>		44 1.91		0 0.00	80 1.31		70 1.97		0.1			136	70	15			
3/6 0855		50	10.7	94	282	7.7 8.1	1.68 <sup>c</sup>		23 1.00		0 0.00	79 1.29		29 0.82		0.1			84	19	10			
4/6 1045		57	10.8	104	219	7.7 8.2	1.52 <sup>c</sup>		16 0.70		0 0.00	78 1.28		18 0.51		0.1			76	12	15			
5/6 0845		58	9.9	97	188	7.5 7.6	1.5 0.75	6.2 0.51	13 0.57	1.5 0.04	0 0.00	68 1.11	13 0.27	17 0.48	1.8 0.03	0.2 0.01	0.0 0.14	ABS 0.00 PO <sub>4</sub> 0.15	63	7	15			
6/8 1100		65	8.3	88	209	7.5 8.2	1.76 <sup>c</sup>		16 0.70		0 0.00	82 1.34		16 0.45		0.1			88	21	15			
7/2 0845		70	8.0	89	249	7.3 8.2	1.64 <sup>c</sup>		23 1.00		0 0.00	83 1.36		26 0.73		0.1			82	14	20			
8/10 1215		76	8.0	95	590	7.8 7.8	1.98 <sup>c</sup>		76 3.31		0 0.00	78 1.28		122 3.44		0.1			99	35	50			
9/8 1000		69	8.0	88	404	7.5 8.2	1.6 0.80	11 0.92	45 1.96	2.4 0.06	0 0.00	88 1.44	16 0.33	70 1.97	0.9 0.01		0.1 0.16	ABS 0.1 PO <sub>4</sub> 0.25	86	14	30			



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

OLD RIVER AT ORWOOD BRIDGE (STA. 108)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH at 25°C	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>		
			ppm	% Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Baron (B)	Silica (SiO <sub>2</sub> )				Other constituents	
10/9/63 0900	Tidal	68	7.3	80	310	7.3 8.1	1.76 <sup>e</sup>		26 1.13		0 0.00	99 1.62		33 0.93		0.0			174 <sup>e</sup>	39	88	7	9	Median 6.2	USGS
11/6 1140		61	7.5	80	417	7.5 8.0	2.13 <sup>e</sup>		38 1.05		0 0.00	102 1.67		54 1.52		0.2			234 <sup>e</sup>	44	106	22	20	Maximum 230.	
12/4 1300		50	7.2	73	425	7.2 8.0	1.96 <sup>e</sup>		44 1.91		0 0.00	82 1.34		59 1.66		0.2			239 <sup>e</sup>	49	124	31	20	Minimum 5.0	
1/8/64 1055		48	7.2	83	532	7.2 8.1	2.48 <sup>e</sup>		50 2.13		0 0.00	79 1.29		81 2.29		0.2			299 <sup>e</sup>	47	234	59	1		
2/5 1320		51	7.2	68	758	7.2 7.8	3.56 <sup>e</sup>		70 3.04		0 0.00	96 1.57		103 3.05		0.3			426 <sup>e</sup>	46	178	99	15		
3/6 1035		49	7.7	89	390	7.7 8.3	2.10 <sup>e</sup>		34 1.48		1 0.03	82 1.34		48 1.35		0.2			219 <sup>e</sup>	41	105	36	10		
4/8 1240		59	7.7	94	276	7.7 8.0	1.74 <sup>e</sup>		22 0.96		0 0.00	82 1.34		26 0.73		0.1			155 <sup>e</sup>	36	87	20	20		
5/6 1045		60	7.4	91	211	7.4 7.6	1.6 0.86 <sup>e</sup>	6.8 0.56	15 0.63	1.4 0.04	0 0.00	73 1.20	15 0.31	20 0.56	1.9 0.03	0.2 0.01	0.1	13	126 <sup>f</sup> 117 <sup>g</sup>	32	68	8	30		
6/9 1300		65	7.5	85	231	7.5 8.2	1.42 <sup>e</sup>		19 0.83		0 0.00	79 1.29		20 0.56		0.1		ABS 0.1 PO <sub>4</sub> 0.15	130 <sup>e</sup>	37	71	6	20		
7/2 1045		73	7.3	82	247	7.3 8.2	1.46 <sup>e</sup>		22 0.96		0 0.00	86 1.41		22 0.62		0.1			139 <sup>e</sup>	40	73	2	15		
8/10 1000		77	7.5	81	536	7.5 8.1	1.92 <sup>e</sup>		64 2.78		0 0.00	80 1.31		108 3.05		0.2			301 <sup>e</sup>	59	96	30	50		
9/8 1245		73	7.5	90	486	7.5 7.8	1.2 0.60	1.6 1.28	56 2.14	2.4 0.06	0 0.00	75 1.23	25 0.52	90 2.54	0.8 0.01	0.3	13	ABS 0.1 PO <sub>4</sub> 0.20	252 <sup>f</sup> 273 <sup>g</sup>	56	94	32	20		

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
OLD RIVER NEAR TRACY (STA. 103)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Specific conductance (micromhos at 25°C)	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform MPN/ml	Analyzed by
				Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents	Total ppm	N.C. ppm		
10/8/63 1045	Tidal	69	901	4.00 <sup>e</sup>		91 3.96		0 0.00	170 2.79		140 3.95			0.1			200	61	20	Median 95.
11/5 1130		57	580	2.66 <sup>c</sup>		62 2.70		0 0.00	103 1.69		91 2.57			0.3			133	49	10	Maximum 7000.
12/3 0945		48	425	1.96 <sup>c</sup>		44 1.91		0 0.00	82 1.34		59 0.66			0.1			98	31	10	Minimum 2.3
1/10/64 1040		48	585	2.78 <sup>c</sup>		58 2.52		0 0.00	96 1.57		92 2.60			0.2			139	60	8	
2/4 1200		51	771	3.48 <sup>c</sup>		80 3.48		0 0.00	120 1.97		120 3.39			0.3			174	76	9	
3/5 1110		53	1080	5.00 <sup>c</sup>		115 5.00		0 0.00	152 2.49		192 5.42			0.4			250	125	10	
4/9 1035		61	1220	5.36 <sup>c</sup>		124 5.39		0 0.00	190 3.11		199 5.61			0.5			268	112	20	
5/8 1015		60	1190	66 3.29	30 2.43	130 5.66	4.2 0.11	4 0.13	186 3.05	88 1.83	228 6.43	8.4 0.14	0.3 0.02	0.4	17	ABS 0.1 As 0.01 PO <sub>4</sub> 0.60	286	127	5	
6/11 0945		66	1210	5.64 <sup>c</sup>		135 5.87		0 0.00	202 3.31		219 6.18			0.4			282	116	10	
7/6 1045		71	1300	6.00 <sup>c</sup>		129 5.61		8 0.27	192 3.15		245 6.91			0.5			300	129	10	
8/6 1000		77	1140	5.14 <sup>c</sup>		122 5.31		12 0.40	160 2.62		218 6.15			0.4			272	121	20	
9/3 1240		71	2140	65 3.24	32 2.60	139 6.05	2.7 0.07	0 0.00	213 3.49	91 1.89	230 6.49	3.7 0.06		0.4	12	ABS 0.1 As 0.00 PO <sub>4</sub> 0.50	292	117	30	



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
FAYNES CREEK NEAR RED BLUFF (DMA. 886)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub> Total ppm	Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)	Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents			
10/10/63 12:50	15 est.	64	223	7.4 8.3	1.50 <sup>c</sup>		17 0.76		2 0.07	101 1.77		16 0.345			0.3					1
11/7 1:10	20 est.	55	225	7.4 8.3	1.75 <sup>c</sup>		17 0.76		0 0.00	116 1.90		13 0.37			0.4					3
12/5 10:15	20 est.	51	214	7.3 8.3	1.50 <sup>c</sup>		16 0.70		0 0.00	114 1.87		12 0.34			0.3					1
1/2/64 1:50	20 est.	55	227	7.2 8.3	1.50 <sup>c</sup>		18 0.78		0 0.00	116 1.90		14 0.39			0.3					2
2/5 12:15	20 est.	52	180	7.4 8.3	1.76 <sup>c</sup>		13 0.57		2 0.07	90 1.48		10 0.28			0.2					2
3/13 12:15	20 est.	54	200	7.4 8.4	1.38 <sup>c</sup>		16 0.70		4 0.13	100 1.64		12 0.34			0.3					2
4/9 12:20	20 est.	63	205	7.4 8.4	1.42 <sup>c</sup>		16 0.70		0 0.00	107 1.75		12 0.34			0.2					4
5/4 12:40	20 est.	60	218	7.4 7.7	1.6 0.80	8.0 0.26	17 0.74	1.2 0.04	0 0.00	113 1.85	2.0 0.34	13 0.37	1.2 0.03	0.1 0.01	0.4	4.7	Al <sub>2</sub> O <sub>3</sub> 0.0 Fe <sub>2</sub> O <sub>3</sub> 0.250 Mn 0.00			1
6/11 11:45	10 est.	67	228	7.4 8.2	1.60 <sup>c</sup>		19 0.83		0 0.00	120 1.97		12 0.34			0.4					5
7/10 6:25	5 est.	63	261	7.2 7.6	1.72 <sup>c</sup>		23 1.00		0 0.00	122 2.11		18 0.51			0.2					3
8/8 11:45	5 est.	61	223	7.2 8.3	1.50 <sup>c</sup>		18 0.78		1 0.03	110 1.80		16 0.35			0.4					3
9/8 1:10	15 est.	69	241	7.2 7.9	1.4 0.70	10 0.36	21 0.91	1.3 0.05	0 0.00	116 1.90	2.0 0.34	18 0.51	1.4 0.02		0.6	4.9	Al <sub>2</sub> O <sub>3</sub> 0.0 Fe <sub>2</sub> O <sub>3</sub> 0.30 Mn 0.00			2

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
PIT RIVER NEAR BIEBER (STA. 17e)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH $\frac{a}{b}$	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub>		Tur-bid-ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>1</sup>
							equivalents per million																
							Calcium (Ca)	Magne-sium (Mg)	Sodium (Na)	Potas-sium (K)	Carbon-ate (CO <sub>3</sub> )	Bicar-bonate (HCO <sub>3</sub> )	Sul-fate (SO <sub>4</sub> )	Chlo-ride (Cl)	Ni-trate (NO <sub>3</sub> )	Fluo-ride (F)							
10/10/63 1130	60	62	9.2	109	346	8.2 8.1	2.22 <sup>c</sup>	30 1.30		0 0.00	202 3.31		8.2 0.23			0.0			111	0	10		0000
11/6 1035	166	49	10.0	101	285	7.7 8.1	1.84 <sup>c</sup>	26 1.13		0 0.00	162 2.66		7.5 0.21			0.0			92	0	20		
12/4 1645	151	40	11.3	101	250	8.0 8.2	1.54 <sup>c</sup>	23 1.00		0 0.00	139 2.28		2.0 0.14			0.1			77	0	10		
Discontinued																							



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
PIT RIVER NEAR CANBY (STA. 17a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micronhos at 25°C)	pH a b	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>1</sup>		
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents	
10/10/63 1015	55	55	9.0	99	314	8.1 8.1	1.96 <sup>c</sup>		28 1.22		0 0.00	184 3.02		7.0 0.20		0.0			38	98	0	25	Median 23.	USGS	
11/6 1240	101	42	10.5	97	296	8.0 8.3	1.74 <sup>c</sup>		26 1.13		2 0.07	156 2.56		9.2 0.26		0.1			39	87	0	20	Maximum 24000.		
12/4 1530	75	35	13.1	109	264	8.2 8.4	1.60 <sup>c</sup>		25 1.09		3 0.10	137 2.25		7.0 0.20		0.2			41	80	0	10	Minimum 0.045		
1/8/64 0945	49	34			294	8.1 8.2	1.72 <sup>c</sup>		28 1.22		0 0.00	153 2.51		9.5 0.27		0.0			41	86	0	20			
2/5 1400	149	37	13.4	115	311	8.1 8.2	1.82 <sup>c</sup>		34 1.48		0 0.00	158 2.59		9.0 0.25		0.1			45	91	0	40			
3/4 0800	71	36	11.3	95	331	8.0 8.2	1.88 <sup>c</sup>		34 1.48		0 0.00	155 2.54		13 0.37		0.1			44	94	0	30			
4/9 1055	250	52	9.0	94	191	7.9 8.2	1.28 <sup>c</sup>		17 0.74		0 0.00	104 1.70		4.6 0.13		0.1			37	64	0	30			
5/6 0955	324	45	10.0	97	217	7.9 8.1	1.8 0.48		20 0.87	3.9 0.10	0 0.00	117 1.92	12 0.25	4.8 0.14	1.8 0.03	0.3 0.02	0.1	31	ABS 0.1 PO <sub>4</sub> 0.30 As 0.00	37	69	0	35		166 <sup>f</sup>
6/10 1830	870	53	8.6	92	205	7.5 8.2	1.38 <sup>c</sup>		18 0.78		0 0.00	112 1.84		4.0 0.11		0.1			36	69	0	30			
7/8 0945	233	72	7.2	95	219	8.2 8.3	1.48 <sup>c</sup>		18 0.78		1 0.03	122 2.00		3.5 0.10		0.1			35	74	0	20			
8/6 0800	1.9	65	6.9	85	243	8.0 8.4	1.60 <sup>c</sup>		21 0.91		2 0.07	132 2.16		5.5 0.16		0.1			36	80	0	20			
9/3 0740	165	55	7.7	84	285	7.0 8.1	2.1 1.05	2.1 0.75	25 1.09	6.2 0.16	0 0.00	158 2.59	12 0.25	5.9 0.17	0.8 0.01	0.3	32	ABS 0.4 PO <sub>4</sub> 0.85 As 0.01	36	90	0	20	215 <sup>f</sup>		

TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

PITT RIVER NEAR MONTGOMERY CREEK (SDA. 17)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Specific conductance (microhmhos at 25°C)	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform MPN/ml	Analyzed by
				Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents	Total ppm	N.C. ppm		
10/10/63 1315	2560	58	154	1.12 <sup>c</sup>		10 0.44		0 0.00	88 1.44		4.8 0.14			0.0			56	0	2	Median 2.3
11/6	Not Sampled	--	Inaccessible																	Maximum 23.
12/4	Not Sampled	--	Inaccessible																	Minimum 0.23
1/8/64	Not Sampled	--	Inaccessible																	
2/5 1100	6070	44	150	1.16 <sup>c</sup>		11 0.48		2 0.07	82 1.34		2.8 0.08			0.1			58	0	2	
3/4	Not Sampled	--	Inaccessible																	
4/9 1405	4470	52	142	1.02 <sup>c</sup>		11 0.48		1 0.03	82 1.34		4.2 0.12			0.1			51	0	15	
5/6 1200	4170	55	150	1.1 0.55	9.4 0.53	10 0.74	2.0 0.05	2 0.07	81 1.33	3.0 0.05	3.8 0.11	0.9 0.01	0.0 0.00	0.0	30	AMB: 0.0 PO <sub>4</sub> : 0.10	54	0	5	
6/10 1600	3150	61	171	1.22 <sup>c</sup>		13 0.57		0 0.00	94 1.54		3.5 0.10			0.1			61	0	2	
7/8 1300	3070	68	166	1.18 <sup>c</sup>		11 0.48		2 0.07	90 1.48		3.5 0.10			0.0			59	0	2	
8/7 0915	1430	67	156	1.12 <sup>c</sup>		11 0.48		0 0.00	89 1.46		3.5 0.10			0.1			56	0	2	
9/4 0840	898	61	161	1.3 0.65	6.0 0.49	11 0.48	2.3 0.05	0 0.00	90 1.48	4.0 0.08	3.0 0.08	1.5 0.02		0.1	34	AMB: 0.0 PO <sub>4</sub> : 0.25	57	0	3	



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
PIT RIVER, SOUTH FORK NEAR LEBLEY (STA. 18a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH at 25	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform MPN/ml	Analyzed by		
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents	
10/10/63 0850	28	49	10.2	105	111	7.2 8.0	0.87 <sup>c</sup>		5.0 0.22		0 0.00	68 1.11		0.5 0.01		0.0				44	0	2	Median 23.	USGS	
11/6 1400	44	40	10.9	99	126	7.7 8.0	0.98 <sup>c</sup>		5.9 0.26		0 0.00	76 1.25		1.8 0.05		0.0				49	0	2	Maximum 7000.		
12/4 1440	32	36	12.0	102	103	7.6 7.7	0.80 <sup>c</sup>		5.0 0.22		0 0.00	58 0.95		0.5 0.01		0.0				40	0	6	Minimum 2.3		
1/8/64 1125	36	34			116	7.8 8.0	0.90 <sup>c</sup>		6.6 0.29		0 0.00	65 1.07		1.2 0.03		0.0				45	0	1			
2/5 1520	46	33	12.4	101	124	7.7 8.2	1.00 <sup>c</sup>		6.6 0.29		0 0.00	75 1.23		1.2 0.03		0.0				50	0	4			
3/4 1050	26	39	11.9	106	108	8.3 8.2	0.88 <sup>c</sup>		5.8 0.25		0 0.00	66 1.08		1.0 0.03		0.0				44	0	4			
4/9 0950	29	44	12.3	118	111	8.4 8.4	0.88 <sup>c</sup>		7.3 0.32		1 0.03	64 1.05		0.8 0.02		0.0				44	0	7			
5/6 0840	103	38	11.9	105	98	7.8 8.0	1.0 0.50	3.4 0.28	4.9 0.21	1.9 0.05	0 0.00	55 0.90	2.0 0.04	0.8 0.02	2.2 0.04	0.1 0.01	0.0	31	ABS 0.0 PO <sub>4</sub> 0.10 As 0.01	39	0	5			
6/11 0850	1.2	49	9.8	100	106	7.5 8.1	0.86 <sup>c</sup>		6.1 0.27		0 0.00	63 1.03		1.0 0.03		0.0				43	0	15			
7/2 1240	122	65	8.3	104	98	8.2 8.1	0.79 <sup>c</sup>		5.0 0.22		0 0.00	56 0.92		0.5 0.01		0.0				40	0	2			
8/6 0905	168	66	8.1	101	138	8.1 8.3	1.02 <sup>c</sup>		8.8 0.38		2 0.07	76 1.25		2.0 0.06		0.0				51	0	30			
9/3 0920	83	60	8.9	105	147	8.2 7.5	1.4 0.70	4.1 0.34	2.3 0.40	4.5 0.12	0 0.00	81 1.33	4.0 0.08	2.1 0.06	2.1 0.03	0.1	33	ABS 0.2 PO <sub>4</sub> 0.40 As 0.00	52	0	30				

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
PUTAH CREEK NEAR WINTERS (STA. 81)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by <sup>1</sup>		
			ppm	% Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents	
10/10/63 1115	106	59	13.2	132	298	8.1 8.4	2.90 <sup>c</sup>		7.5 0.33		8 0.27	158 2.59		8.0 0.23			0.0			10	145	2	1	Median 5.0	UES
11/5 0840	11	55	9.2	87	320	7.8 8.4	3.00 <sup>c</sup>		10 0.44		3 0.10	171 2.80		10 0.28			0.2			13	150	5	1	Maximum 230.	
12/5 0845	30	48	11.0	96	312	7.7 8.2	2.96 <sup>c</sup>		10 0.44		0 0.00	175 2.87		6.5 0.18			0.1			13	148	4	2	Minimum 0.23	
1/7/64 1530	20	52	12.2	112	313	8.1 8.6	3.02 <sup>c</sup>		8.7 0.38		6 0.20	170 2.79		7.8 0.22			0.1			11	151	2	1		
2/6 0900	26	47	11.5	99	314	7.9 8.6	3.18 <sup>c</sup>		9.8 0.43		10 0.33	152 2.49		8.5 0.24			0.2			12	159	18	5		
3/3 1500	127	54	12.0	113	307	8.1 8.6	3.10 <sup>c</sup>		8.2 0.36		8 0.27	157 2.57		5.0 0.14			0.2			10	155	13	15		
4/8 1230	212	56	12.5	120	305	8.4 8.7	2.98 <sup>c</sup>		9.0 0.39		6 0.20	166 2.72		5.0 0.14			0.4			12	149	3	1		
5/5 0730	432	52	10.7	98	312	8.3 8.5	16 0.80	27 2.24	9.2 0.40	1.9 0.05	2 0.07	175 2.87	18 0.37	5.0 0.14	1.2 0.02	0.0 0.00	0.2	7.8	ABS 0.0 PO <sub>4</sub> 0.05	11	152	5	4		
6/10 0815	274	54	11.5	108	318	8.2 8.5	3.04 <sup>c</sup>		9.0 0.39		6 0.20	168 2.75		6.0 0.17			0.2			11	152	4	1		
7/8 0800	536	57	11.2	109	318	8.2 8.4	3.10 <sup>c</sup>		8.8 0.38		4 0.13	174 2.85		0.5 0.01			0.3			11	155	6	4		
8/5 0845	530	58	11.3	103	314	8.1 8.6	3.08 <sup>c</sup>		9.0 0.39		8 0.27	166 2.72		4.0 0.11			0.2			11	154	5	2		
9/2 0830	352	55	11.1	105	319	8.1 8.2	19 0.95	25 2.09	8.5 0.37	1.6 0.04	0 0.00	182 2.98	16 0.33	4.7 0.13	1.1 0.02		0.1	10	ABS 0.0 PO <sub>4</sub> 0.00	11	152	3	1		



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
RED BANK CREEK NEAR RED BLUFF (SDA. 884)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform MPN/ml	Analyzed by 1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
10/9/63	Not Sampled	--	No Flow																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
ROCK SLOUGH NEAR KNIGHTSEN (STA. 109)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH & S	Mineral constituents in equivalents per million										Other constituents		Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by f
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)	Silica (SiO <sub>2</sub> )			Total ppm				
10/9/53 0745	Tidal	68	6.4	70	294	7.1 8.0	1.72 <sup>e</sup>		25 1.09		0 0.00	101 1.66		28 0.79		0.0		86	3	10	Median 9.5	USGS			
11/6 1055		59	7.5	74	377	7.3 7.6	2.02 <sup>e</sup>		32 1.39		0 0.00	110 1.80		44 1.24		0.3		101	11	20	Maximum 230.				
12/4 1150		49	8.2	71	604	7.3 7.9	2.72 <sup>e</sup>		65 2.83		0 0.00	112 1.84		88 2.48		0.4		136	44	9	Minimum 2.3				
1/8/54 1140		49	9.7	84	578	7.3 8.3	2.68 <sup>e</sup>		60 2.61		3 0.10	91 1.49		90 2.54		0.4		134	54	8					
2/5 1220		51	7.2	64	908	7.2 8.1	4.20 <sup>e</sup>		85 3.70		0 0.00	122 2.00		131 3.70		0.6		210	110	20					
3/6 1115		51	10.0	90	445	7.5 8.2	2.32 <sup>e</sup>		40 1.74		0 0.00	86 1.41		56 1.58		0.2		116	45	10					
4/8 1115		60	9.3	93	298	7.7 8.2	1.80 <sup>e</sup>		25 1.09		0 0.00	87 1.43		28 0.79		0.1		90	19	15					
5/6 1145		59	9.3	92	231	7.3 7.8	18 0.90	7.5 0.62	16 0.70	1.3 0.03	0 0.00	73 1.20	21 0.44	21 0.59	0.2 0.01	0.1	14	76	16	20	ABS 0.1 PO <sub>4</sub> 0.15				
6/9 1125		65	7.3	77	225	7.3 8.0	1.40 <sup>e</sup>		18 0.78		0 0.00	80 1.31		20 0.56		0.1		70	4	15					
7/6 1345		78	7.9	95	261	7.6 8.2	1.72 <sup>e</sup>		26 1.13		0 0.00	84 1.38		28 0.79		0.2		86	17	20					
8/6 1215		79	6.8	83	592	7.7 7.9	2.06 <sup>e</sup>		76 3.31		0 0.00	84 1.38		122 3.44		0.2		103	34	20					
9/3 1215		72	6.6	75	640	7.3 7.7	19 0.95	15 1.25	78 3.39	4.6 0.12	0 0.00	85 1.39	26 0.54	134 3.78	0.8 0.01	0.1	13	110	40	30	ABS 0.0 PO <sub>4</sub> 0.15				



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT FORD (STA. 12c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub> ppm	Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
			ppm	%Sat			equivalents per million																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
10/10/63 0930	8050	55	10.4	99	111	7.3 7.5	0.90 <sup>c</sup>	4.9 0.21		0.00	0.33		3.0 0.03			0.0			0	3	Median 2.	87 <sup>f</sup>	19	45	0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT BUTTE CITY (STA. 87a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH $\frac{a}{b}$	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform MPN/ml	Analyzed by			
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents		
10/8/63 1130	7300	61	9.9	100	126	$\frac{7.4}{7.8}$	$\frac{1.00^c}{1.00^c}$	$\frac{5.5}{0.24}$	$\frac{0}{0.00}$	$\frac{68}{1.11}$	$\frac{6.0}{0.12}$	$\frac{4.5}{0.13}$	$\frac{1.5}{0.02}$	$\frac{0.0}{0.00}$	$\frac{22}{}$	$\frac{ARS}{PO_4}$	$\frac{0.0}{0.05}$	$\frac{As}{}$	51	0	1	88 <sup>f</sup>	22	2	Median 23.	HGG
11/4 1430	7760	55	10.9	102	125	$\frac{7.5}{7.8}$	$\frac{1.00^c}{1.00^c}$	$\frac{5.2}{0.23}$	$\frac{0}{0.00}$	$\frac{66}{1.08}$	$\frac{0.0}{0.00}$	$\frac{4.0}{0.11}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	50	0	2	19	50	2	Maximum 62.	
12/2 1445	11300	52	10.6	96	139	$\frac{7.3}{7.8}$	$\frac{1.10^c}{1.10^c}$	$\frac{6.6}{0.29}$	$\frac{0}{0.00}$	$\frac{70}{1.15}$	$\frac{0.0}{0.00}$	$\frac{5.2}{0.15}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	55	0	6	21	55	6	Minimum 0.62	
1/6/64 1215	9240	49			146	$\frac{7.4}{8.2}$	$\frac{1.14^c}{1.14^c}$	$\frac{7.5}{0.33}$	$\frac{0}{0.00}$	$\frac{75}{1.23}$	$\frac{0}{0.00}$	$\frac{5.9}{0.17}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	57	0	2	22	57	2		
2/3 1500	13000	50	11.2	99	144	$\frac{7.6}{8.1}$	$\frac{1.36^c}{1.36^c}$	$\frac{8.0}{0.35}$	$\frac{0}{0.00}$	$\frac{71}{1.16}$	$\frac{0}{0.00}$	$\frac{4.5}{0.13}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	68	10	5	20	68	5		
3/2 1510	8900	52	11.3	102	145	$\frac{7.8}{8.3}$	$\frac{1.10^c}{1.10^c}$	$\frac{8.1}{0.35}$	$\frac{2}{0.07}$	$\frac{72}{1.18}$	$\frac{0}{0.00}$	$\frac{4.5}{0.13}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	$\frac{0.1}{0.00}$	55	0	5	24	55	5		
4/7 1100	5160	58	10.4	101	149	$\frac{7.8}{8.0}$	$\frac{1.15^c}{1.15^c}$	$\frac{7.4}{0.32}$	$\frac{0}{0.00}$	$\frac{77}{1.26}$	$\frac{0}{0.00}$	$\frac{3.0}{0.08}$	$\frac{1.5}{0.02}$	$\frac{0.1}{0.00}$	$\frac{22}{}$	$\frac{ARS}{PO_4}$	$\frac{0.0}{0.05}$	$\frac{As}{}$	51	0	1	22	51	1		
5/4 1040	8020	54	11.0	102	129	$\frac{7.5}{8.0}$	$\frac{1.2}{0.60}$	$\frac{6.7}{0.29}$	$\frac{0}{0.00}$	$\frac{69}{1.13}$	$\frac{6.0}{0.12}$	$\frac{4.5}{0.13}$	$\frac{1.5}{0.02}$	$\frac{0.0}{0.00}$	$\frac{0.1}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	55	0	3	20	55	3		
6/9 1340	8240	58	10.0	97	125	$\frac{7.5}{8.0}$	$\frac{1.10^c}{1.10^c}$	$\frac{6.4}{0.28}$	$\frac{0}{0.00}$	$\frac{67}{1.10}$	$\frac{0}{0.00}$	$\frac{2.0}{0.06}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	52	0	15	22	52	15		
7/7 0935	8970	63	9.6	99	127	$\frac{7.6}{7.7}$	$\frac{1.04^c}{1.04^c}$	$\frac{6.8}{0.30}$	$\frac{0}{0.00}$	$\frac{67}{1.10}$	$\frac{0}{0.00}$	$\frac{2.0}{0.06}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	48	0	3	25	48	3		
8/3 1505	9920	67	9.9	107	127	$\frac{7.7}{8.1}$	$\frac{0.96^c}{0.96^c}$	$\frac{7.4}{0.32}$	$\frac{0}{0.00}$	$\frac{67}{1.10}$	$\frac{0}{0.00}$	$\frac{3.0}{0.08}$	$\frac{0.4}{0.01}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	50	0	3	93 <sup>f</sup>	50	3		
9/2 0940	9820	59	10.2	100	126	$\frac{7.6}{8.1}$	$\frac{1.0}{0.50}$	$\frac{7.0}{0.30}$	$\frac{0}{0.00}$	$\frac{69}{1.13}$	$\frac{5.0}{0.10}$	$\frac{1.4}{0.04}$	$\frac{0.4}{0.01}$	$\frac{0.0}{0.00}$	$\frac{22}{}$	$\frac{ARS}{PO_4}$	$\frac{0.0}{0.05}$	$\frac{As}{}$	50	0	3	23	50	3		



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
SACRAMENTO RIVER AT COLUSA (STA. 13b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH $\frac{a}{b}$	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>																																																																																																																																																																																																																																																																																																																										
							equivalents per million																																																																																																																																																																																																																																																																																																																																										
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)								Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents																																																																																																																																																																																																																																																																																																																							
10/8/63 0930	7980	62	9.7	99	126	$\frac{7.4}{7.5}$	$\frac{1.00^c}{1.00^c}$	$\frac{5.5}{0.24}$	$\frac{2.5}{0.24}$	$\frac{0}{0.00}$	$\frac{67}{1.10}$	$\frac{3.8}{0.11}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$	$\frac{0.0}{0.00}$

TABLE D-2

# ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER ABOVE COLUSA TROUGH (STA. 146)

Date and time and place sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub> in ppm		Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
10/8/63 0810	9200	61	9.6	97	130	7.4 8.0	1.04 <sup>c</sup>	5.8 0.25	70 1.15	3.9 0.11			0 0.00	70 1.15	12 0.25	7.5 0.21	0.1 0.01	0.1 0.01	24	ABS 0.0 As 0.00 PO <sub>4</sub> 0.10	112 <sup>f</sup>	27	62	0	15																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			



**TABLE D-2**  
**ANALYSES OF SURFACE WATER**  
CENTRAL VALLEY REGION (NO. 5)  
SACRAMENTO RIVER AT DELTA (STA. 11)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (microhmhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>1</sup>				
							ppm	% Sat	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)			Nitrate (NO <sub>3</sub> )	Fluoride (F)				Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents	
																										Total ppm	N.C. ppm
10.15.63 0830	276	57	10.4	104	143	8.1	1.25 <sup>c</sup>		0	76		8.0							53	0	1	Median 9.6	USGS				
11.5 1000	645	50	10.5	97	121	7.6	0.81 <sup>c</sup>		0	63		2.6							48	0	4	Maximum 230.					
12.3 0905	732	43	12.5	104	114	7.5	0.98 <sup>c</sup>		0	64		4.6							49	0	1	Minimum 0.62					
1/6.64 1210	464	40	12.8	103	119	7.4	1.00 <sup>c</sup>		0	65		2.8							50	0	2						
2.3 1200	1010	44	12.5	106	107	7.2	0.86 <sup>c</sup>		0	57		2.5							43	0	2						
3.4 1230	590	45	12.3	106	110	7.4	0.96 <sup>c</sup>		0	62		4.2							48	0	5						
4.7 1205	760	49	11.8	107	106	7.3	0.96 <sup>c</sup>		2	59		4.0							48	0	1						
5.5 1400	600	50	11.5	106	106	7.3	0.98 <sup>c</sup>		0	59		2.5							44	0	1						
6.9 1130	678	48	10.7	96	112	7.7	0.96 <sup>c</sup>		0	62		3.0							48	0	1						
7.6 1145	263	69	9.7	111	142	8.4	1.10 <sup>c</sup>		0	72		2.3							55	0	1						
8.4 1140	185	69	9.8	113	160	8.4	1.12 <sup>c</sup>		1	79		2.0							56	0	1						
9.1 1215	200	58	10.2	103	158	8.3	1.12 <sup>c</sup>		0	76		8.6							56	0	3						

TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT FREEPORT (STA. 15b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (microhmhos at 25°C)	pH	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>	
			ppm	% Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Baron (B)	Silica (SiO <sub>2</sub> )				Other constituents
10/10/63 0715	12,400	62	9.0	92	171	7.3 8.0	1.22 <sup>c</sup>		19 0.44			0 0.00	80 1.31		8.0 0.23		0.0	113 <sup>e</sup>	27	61	0	15	Median 230.	USGS
11/8 0740	19,600	55	9.5	89	146	7.9 7.9	1.08 <sup>c</sup>	7.6 0.33				0 0.00	70 1.15		5.8 0.16		0.0	96 <sup>e</sup>	23	54	0	25	Maximum 7000	
12/5 1345	23,000	47	10.6	90	144	7.3 8.0	1.08 <sup>c</sup>	8.2 0.36				0 0.00	67 1.10		4.0 0.11		0.1	95 <sup>e</sup>	25	54	0	8	Minimum 5.0	
1/8/64 1200	16,100	46	11.4	96	178	7.3 7.1	1.26 <sup>c</sup>	13 0.57				0 0.00	73 1.20		8.0 0.23		0.0	117 <sup>e</sup>	31	63	3	3		
2/6 1330	22,700	47	11.2	95	163	7.2 7.0	1.32 <sup>c</sup>	10 0.44				0 0.00	74 1.21		5.8 0.16		0.1	108 <sup>e</sup>	25	66	5	8		
3/4 1230	15,500	50	11.2	99	163	7.5 8.0	1.22 <sup>c</sup>	9.7 0.42				0 0.00	76 1.23		8.5 0.24		0.0	108 <sup>e</sup>	26	61	0	4		
4/8 0740	13,700	56	10.8	103	137	6.7 8.1	1.27 <sup>c</sup>	7.6 0.33				0 0.00	66 1.08		5.5 0.16		0.0	90 <sup>e</sup>	24	53	0	8		
5/6 0650	13,600	56	9.7	92	175	7.7 7.8	1.2 0.60	13 0.57		1.3 0.03		0 0.00	75 1.23	13 0.27	8.0 0.23	1.3 0.02	0.0 0.00	113 <sup>f</sup> 1118	32	60	0	15		
6/10 1300	13,800	64	8.7	91	192	7.3 7.9	1.28 <sup>c</sup>	13 0.57				0 0.00	81 1.33		10 0.28		0.0	127 <sup>e</sup>	31	64	0	10		
7/8 1400	12,200	73	8.7	100	170	7.7 7.7	1.26 <sup>c</sup>	11 0.48				0 0.00	77 1.26		2.5 0.27		0.0	112 <sup>e</sup>	29	60	0	10		
8/5 1500	13,000	73	8.8	101	192	7.5 7.5	1.10 <sup>c</sup>	11 0.48				0 0.00	72 1.18		4.5 0.13		0.0	100 <sup>e</sup>	30	55	0	5		
9/2	15,000	68	8.6	94	203	7.5 7.7	1.5 0.75	15 0.65		1.2 0.05		0 0.00	97 1.59	11 0.23	9.2 0.23	1.3 0.03	0.1	128 <sup>f</sup> 1368	31	71	0	8		



**TABLE D-2**  
**ANALYSES OF SURFACE WATER**  
CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER NEAR HAMILTON CITY (STA. 13)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>l</sup>	
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents
10/8/63 1245	7467	59	10.1	100	120	7.4 7.9	0.94 <sup>c</sup>		5.4 0.23		0 0.00	63 1.03		4.0 0.11		0.0		20	47	0	3	Median 62.	USGS	
11/4 1525	8210	54	10.3	96	116	7.3 8.0	0.96 <sup>c</sup>		5.2 0.23		0 0.00	64 1.05		4.0 0.11		0.0		19	48	0	2	Maximum 620.		
12/2 1545	11290	51	10.7	96	133	7.3 8.0	1.04 <sup>c</sup>		6.2 0.27		0 0.00	68 1.11		4.8 0.14		0.0		21	52	0	3	Minimum 6.2		
1/6/64 1305	9230	49			137	7.3 8.6	1.06 <sup>c</sup>		8.4 0.37		5 0.17	70 1.15		5.5 0.16		0.0		26	53	0	2			
2/3 1600	12430	49	11.2	98	141	7.5 7.9	1.14 <sup>c</sup>		7.5 0.33		0 0.00	70 1.15		6.2 0.17		0.0		22	57	0	3			
3/2 1600	9019	50	11.5	102	137	7.7 8.2	1.06 <sup>c</sup>		7.7 0.33		0 0.00	70 1.15		5.1 0.14		0.0		24	53	0	3			
4/8 0815	4823	56	10.0	95	133	7.5 8.0	1.10 <sup>c</sup>		7.2 0.31		0 0.00	70 1.15		5.2 0.15		0.0		22	55	0	2			
5/5 0710	8480	53	10.7	98	129	7.5 8.0	1.1 0.55	5.7 0.47	1.4 0.04	0 0.00	67 1.10	5.0 0.10	5.0 0.14	0.8 0.01	0.1 0.01		25	ABS 0.0 PO <sub>4</sub> 0.05	88 <sup>f</sup>	51	0	1		
6/9 1440	8750	55	10.6	100	122	7.4 8.0	1.00 <sup>c</sup>		6.8 0.30	0 0.00	64 1.05		2.5 0.07		0.1			23	50	0	3			
7/8 0720	9360	60	9.6	96	124	7.5 8.2	1.02 <sup>c</sup>		6.5 0.28	0 0.00	68 1.11		2.3 0.06		0.0			22	51	0	3			
8/3 1545	10600	62	10.3	105	121	7.5 8.2	0.98 <sup>c</sup>		7.2 0.31	0 0.00	68 1.11		2.5 0.07		0.0			24	49	0	3			
9/2 1050	10200	58	10.2	99	119	7.3 7.9	1.4 0.70	3.4 0.28	0.9 0.02	0 0.00	66 1.08	3.0 0.06	3.1 0.09	1.6 0.03		0.0	23	ABS 0.0 PO <sub>4</sub> 0.05	88 <sup>f</sup>	49	0	2		

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
SACRAMENTO RIVER AT KESWICK (STA. 12)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>
							parts per million																
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )			
10/7/63 1230	6280 M.D.	52	9.8	91	105	7.2 7.6	0.82 <sup>c</sup>	5.2 0.23		0 0.00	56 0.92	5.0 0.10	2.6 0.07		0.0			41	0	2	Median 0.62	REC	
11/4 0945	5550 M.D.	54	9.2	87	104	7.2 7.9	0.84 <sup>c</sup>	4.8 0.21		0 0.00	58 0.95	4.0 0.08	3.0 0.08		0.0			42	0	2	Maximum 230.		
12/2 1440	8020	54	8.2	78	120	7.1 7.7	0.92 <sup>c</sup>	6.5 0.28		0 0.00	62 1.02	8.0 0.17	3.2 0.09		0.0			46	0	8	Minimum 0.06		
1/6/64 0930	7100 M.D.	51	9.8	90	124	7.2 8.1	0.96 <sup>c</sup>	7.2 0.31		0 0.00	68 1.11	5.0 0.10	3.6 0.10		0.0			48	0	2			
2/3 0955	8530	48	9.9	87	124	7.0 7.9	0.96 <sup>c</sup>	6.8 0.30		0 0.00	61 1.00	8.0 0.17	3.5 0.10		0.0			48	0	8			
3/4 0930	6600	48	11.1	98	117	7.3 8.2	1.00 <sup>c</sup>	6.9 0.30		0 0.00	64 1.05	7.0 0.15	2.5 0.07		0.1			50	0	5			
4/7 0900	4690	49	12.1	107	113	7.3 7.8	0.98 <sup>c</sup>	5.4 0.23		0 0.00	61 1.00	4.0 0.08	3.4 0.10		0.0			49	0	2			
5/5 0950	8650	49	10.7	95	120	7.2 7.8	1.1 0.55	7.0 0.30	1.5 0.04	0 0.00	66 1.08	4.0 0.08	4.0 0.11	0.6 0.01	0.1 0.01	ABS 0.0 PO <sub>4</sub> 0.05	As 0.00	47	0	1	79 <sup>f</sup>		
6/9 0900	9120 M.D.	50	10.7	96	118	7.2 8.1	0.94 <sup>c</sup>	5.7 0.25		0 0.00	64 1.05	3.0 0.06	2.0 0.06		0.0			47	0	1			
7/6 0925	12100	51	10.0	91	120	7.3 8.2	0.96 <sup>c</sup>	6.5 0.28		0 0.00	65 1.07	4.0 0.08	2.0 0.06		0.1			48	0	1			
8/4 0900	13000	52	9.2	85	119	7.3 7.9	0.94 <sup>c</sup>	6.6 0.29		0 0.00	66 1.08	4.0 0.08	2.3 0.06		0.1			47	0	2			
9/1 0910	11000	54	8.1	77	120	7.2 7.6	1.1 0.55	6.5 0.28	1.0 0.03	0 0.00	65 1.07	6.0 0.12	1.2 0.05	0.5 0.01	0.1	ABS 0.0 PO <sub>4</sub> 0.05	As 0.00	48	0	1	89 <sup>f</sup>		



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
SACRAMENTO RIVER NEAR MALLARD SLOUGH (STA. 15e)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in equivalents per million								parts per million						Total dis- solved solids in ppm	Per- cent sed- iment	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by									
			ppm	% Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)	Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents																	
10/17/63 1350		71			756			93												163							536	53								USBR
11/13 1135		60			442			51												84								292	50							
12/17 1110		44			327			32												47								224	43							
1/16/64 1340		50			615			71												125								408	50							
2/11 1320		52			660			46												131								368	30							
3/10 1015		55			767			95												166								512	54							
4/16 1255		65			1825			267												490								1104	64							
5/13 1305		60			2441			373												671								1420	66							
6/12 1305		73			3800			564												1086								2368	65							
7/15 1330		81			8458			1316												2669								5668	68							
8/12 1345		72			8358																							5336								
9/16 1320		70			2424			386												689								1532	69							

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
SACRAMENTO RIVER AT RIO VISTA (STA. 16)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>1</sup>
			ppm	%Sat			equivalents per million																
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )			
10/10/63	Tidal	65	7.8	83	171	7.3 8.0	1.22 <sup>c</sup>		11 0.48		0 0.00	80 1.31		7.7 0.22		0.0			61	0	2	Median 23.	USGS
11/8 1010		56	9.1	87	160	7.3 8.0	1.18 <sup>c</sup>		8.5 0.37		0 0.00	75 1.23		7.5 0.21		0.0			59	0	15	Maximum 620.	
12/5 1130		47	10.0	85	175	7.3 8.0	1.20 <sup>c</sup>		11 0.48		0 0.00	75 1.23		8.0 0.23		0.1			60	0	4	Minimum 2.3	
1/8/64 1000		46	10.6	89	178	7.3 7.5	1.26 <sup>c</sup>		14 0.61		0 0.00	74 1.21		8.0 0.23		0.0			63	2	20		
2/6 1115		47	11.0	93	187	7.3 7.9	1.28 <sup>c</sup>		12 0.52		0 0.00	77 1.26		9.2 0.26		0.1			64	1	15		
3/4 1000		49	10.5	91	175	7.3 8.0	1.26 <sup>c</sup>		11 0.48		0 0.00	77 1.26		9.5 0.27		0.0			63	0	10		
4/8 0935		56	9.8	93	156	7.7 7.8	1.20 <sup>c</sup>		9.0 0.39		0 0.00	70 1.15		7.3 0.21		0.1			60	3	10		
5/6 0845		58	9.3	91	165	7.9 8.0	1.2 0.60	8.0 0.66	10 0.44	1.2 0.03	0 0.00	69 1.13	12 0.25	9.5 0.27	1.0 0.02	0.1 0.01	0.1	17	ABS 0.1 PO <sub>4</sub> 0.25	As 0.00	6	15	
6/10 1045		65	8.1	86	197	7.5 8.0	1.36 <sup>c</sup>		13 0.57		0 0.00	65 1.39		12 0.34		0.1			63	6	20		
7/8 1030		69	8.6	95	184	7.5 7.7	1.24 <sup>c</sup>		11 0.48		0 0.00	74 1.21		12 0.34		0.0			62	1	50		
8/5 1130		74	9.5	111	186	7.7 8.1	1.22 <sup>c</sup>		15 0.65		0 0.00	78 1.28		13 0.37		0.1			61	0	20		
9/2 1245		69	7.7	85	197	7.6 7.8	1.4 0.70	7.5 0.62	15 0.65	2.0 0.05	0 0.00	90 1.48	9.0 0.19	9.9 0.28	1.3 0.02	0.1	19	ABS 0.0 PO <sub>4</sub> 0.25	As 0.00	0	40		



TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT SNODGRASS SLOUGH (STA. 97)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>b</sup> MPN/ml	Analyzed by <sup>1</sup>							
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents						
10/18/63 1210		64			150	7.2	11	7.0	8.3	1.6	0.0	67	6.7	7.1	0.0					112	24									UEBR
11/12 1325		57			141	8.1	13	5.7	7.6	1.6	0.0	62	6.2	7.1	1.2					148	22									
12/17 1300		47			160	8.0	12	5.6	9.0	1.2	0.0	68	9.6	7.8	0.0					120	26									
1/14/64 1300		46			174	7.7	14	6.0	10	1.6	0.0	74	9.1	8.5	0.6					96	27									
2/10 1135		50			175	7.7	13	9.3	9.9	1.2	0.0	68	12	8.5	0.0					136	23									
3/9 1120		49			166	7.8	14	6.5	9.0	1.2	0.0	79	10	6.4	0.0					128	23									
4/15 1305		63			128	7.6	11	5.7	5.3	1.2	0.0	56	5.3	5.0	0.0					96	18									
5/11 1500		68			199	7.3	15	7.3	14	1.2	0.0	79	16	11	0.0					148	30									
6/18 1340		67			191	7.2	21	3.1	13	1.2	0.0	79	11	8.5	0.0					168	29									
7/17 1030		71			156	6.9	17	4.1	9.4	1.6	0.0	55	12	9.2	0.0					124	25									
8/17 1720		72			227	8.2	13	8.1	21	1.6	0.0	73	11	23	1.9					156	41									
9/28 1415		67			152	7.4	13	6.1	9.7	1.6	0.0	74	7.2	9.2	0.0					116	26									

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
SACRAMENTO RIVER AT TOLAND LANDING (STA. 15a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent calcium	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform MPN/ml	Analyzed by																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
10/15/63 1025		66			298			28												228	41																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			



TABLE D-2

SACRAMENTO RIVER AT TOLAND LANDING (STA. 250)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	Mineral constituents in equivalents per million										parts per million						Total dissolved solids in ppm g	Per-cent solid-ium	Hardness as CaCO <sub>3</sub>		Tur-bid-ity in ppm	Coliform MPN/ml	Analyzed by					
			ppm	% Sat		Calcium (Ca)	Magne-sium (Mg)	Sodium (Na)	Potas-sium (K)	Carbon-ate (CO <sub>3</sub> )	Bicar-bonate (HCO <sub>3</sub> )	Sul-fate (SO <sub>4</sub> )	Chlo-ride (Cl)	Nit-rite (NO <sub>3</sub> )	Fluo-ride (F)	Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents															
6/8/64 1230					225			<u>18</u>										<u>17</u>							156	35						USBR	
6/11 1010					297			<u>28</u>											<u>39</u>							180	41						
6/15 1040					436			<u>44</u>											<u>77</u>							272	48						
6/18 1110					342			<u>35</u>											<u>43</u>							236	44						
6/22 1145		72			247			<u>20</u>											<u>22</u>							156	35						
6/25 1050		73			403			<u>43</u>											<u>67</u>							248	46						
6/29 1100		70			1033			<u>134</u>											<u>242</u>							588	56						
7/2 1110		69			1320			<u>196</u>											<u>318</u>							788	65						
7/6 1110		69			314			<u>33</u>											<u>45</u>							212	46						
7/9 1145		60			514			<u>57</u>											<u>100</u>							336	48						
7/13 1205		70			1675			<u>253</u>											<u>433</u>							1016	66						
7/16 1100					2376			<u>354</u>											<u>643</u>							1388	65						
7/20 1125		73			541			<u>59</u>											<u>108</u>							344	47						
7/23 1145		74			416			<u>47</u>											<u>77</u>							260	49						
7/27 1150					1185			<u>160</u>											<u>293</u>							672	59						

ANALYSES OF SURFACE WATER

## CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT TOLAND LANDING (STA. 15a)

-97-



TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT TOLAND LANDING (STA. 15a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent solum	Hardness as CaCO <sub>3</sub> Total N.C. ppm	Tur-bidity in ppm	Coliform MPN/ml	Analyzed by			
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents
9/22/64 1130		68			234			20						18						196	37			USBR	
9/25 0945		68			336			36						49						260	47				
9/28 1130		66			464			55						86						328	52				

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

LA BASHAW CREEK NEAR KNIGHTS LANDING (SWA. 14a.)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sed- i- ment	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>				
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents			
10/8/63 0730	438	68	6.8	74	500	7.8 8.4	3.95 <sup>c</sup>		42 1.83		7 0.23	24.1 3.95		51 1.44				0.0				32	197	0	5	Median 23. Maximum 62. Minimum 21.	
11/4	Not Sampled		--	Inaccessible																							
12/2	Not Sampled		--	Inaccessible																							
1/6/64	Not Sampled		--	Inaccessible																							
2/3	Not Sampled		--	Inaccessible																							
3/2	Not Sampled		--	Inaccessible																							
4/7 0720	504 M.D.	60	5.1	51	266	7.9 7.8	2.08 <sup>c</sup>		15 0.65		0 0.00	132 2.16		17 0.48				0.0				24	104	0	25		
5/4 0610	720	61	7.6	77	563	7.6 7.8	32 1.60	25 2.02	46 2.00	1.4 0.04	0 0.00	1.97 3.23	21 0.44	70 1.97	1.0 0.03		0.2 0.01	0.0	24	As 0.01 PO <sub>4</sub> 0.40		320 <sup>f</sup>	181	19	25		
6/9	Not Sampled		--	Inaccessible																							
7/7 0620	602 M.D.	75	6.6	77	600	7.6 7.7	4.10 <sup>c</sup>		46 2.00		0 0.00	24.2 3.97		61 1.72				0.1					205	7	30		
8/3 1050	547 M.D.	75	6.5	76	573	7.7 8.2	4.02 <sup>c</sup>		45 1.96		0 0.00	22.2 4.18		52 1.47				0.1					201	0	30		
9/3 1600	1270 M.D.	71	7.7	87	478	7.8 8.2	32 1.60	24 2.00	44 1.48	5.6 0.06	0 0.00	24.0 3.93	11 0.23	43 0.93	1.1 0.02		0.1	25	As 0.01 PO <sub>4</sub> 0.40		240 <sup>f</sup>	180	0	30			



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
SAN JOAQUIN RIVER AT ANTIOCH (STA. 28)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH @ 5	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>	
			ppm	% Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents
10/9/63 1030	Tidal	68	7.5	82	387	7.3 7.8	1.71 <sup>c</sup>		40 1.74		0 0.00	25 1.56		58 1.64			0.0			85	7	30	Median 62.	USGS
11/6 1010		60	8.2	82	681	7.3 8.0	2.22 <sup>c</sup>		79 3.44		0 0.00	87 1.43		144 4.06			0.1			111	40	9	Maximum 950.	
12/4 1100		50	8.0	71	255	7.5 7.7	1.40 <sup>c</sup>		22 0.96		0 0.00	72 1.18		29 0.82			0.1			70	11	25	Minimum 0.5	
1/8/64 1240		49	9.8	85	304	7.2 8.3	1.58 <sup>c</sup>		28 1.22		1 0.03	77 1.26		37 1.04			0.1			79	14	15		
2/5 1125		51	8.7	78	319	7.1 7.8	1.72 <sup>c</sup>		30 1.30		0 0.00	70 1.15		40 1.13			0.1			86	29	20		
3/6 1145		52	9.9	90	337	7.7 7.8	1.72 <sup>c</sup>		34 1.48		0 0.00	79 1.29		44 1.24			0.1			86	21	10		
4/8 1000		58	10.2	99	323	7.9 7.8	1.60 <sup>c</sup>		34 1.48		0 0.00	81 1.33		44 1.24			0.1			80	14	10		
5/6 1230		61	9.5	94	1180	7.7 8.0	2.1 1.05	25 2.03	14.9 6.48	5.8 0.15	0 0.00	76 1.25	4.9 1.02	275 7.76	1.1 0.02	0.0 0.00	0.1	13 ABS 0.0 As 0.00 PO <sub>4</sub> 0.15	154	92	10			
6/9 1040		65	8.1	86	618	7.7 7.9	2.08 <sup>c</sup>		82 3.57		0 0.00	86 1.41		122 3.44			0.2			104	33	15		
7/8 1145		72	8.2	93	1820	7.7 7.9	4.52 <sup>c</sup>		275 11.96		0 0.00	92 1.51		470 13.26			0.3			226	151	30		
8/5 1245		76	7.7	92	3450	7.8 7.8	7.80 <sup>c</sup>		532 23.14		0 0.00	84 1.38		968 27.31			0.3			390	321	35		
9/2 1130		71	7.6	86	1960	7.7 7.7	26 1.30	40 3.30	296 12.88	9.2 0.24	0 0.00	85 1.39	80 1.67	515 14.53	1.8 0.03		0.2	12 ABS 0.0 As 0.00 PO <sub>4</sub> 0.20	230	160	35			

TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT BRANDT BRIDGE (STA. 101a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	Mineral constituents in equivalents per million										Total dissolved solids in ppm g	Per-cent solid-ium	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform MPN/ml	Analyzed by																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
			ppm	% Sat		Calcium (Ca)	Magne-sium (Mg)	Sodium (Na)	Potas-sium (K)	Carbon-ate (CO <sub>3</sub> )	Bicar-bonate (HCO <sub>3</sub> )	Sul-fate (SO <sub>4</sub> )	Chlo-ride (Cl)	Ni-trate (NO <sub>3</sub> )	Fluo-ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
11/19/63 1240		54			392			43										61					264	48																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
SAN JOAQUIN RIVER AT GARWOOD BRIDGE (STA. 101)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by i			
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents		
10/8/63 1330	Tidal	71	10.4	118	734	7.7 8.3	3.36 <sup>c</sup>		77 3.35		4 0.13	150 2.46		118 3.33			0.0			415 <sup>e</sup>	50	168	38	6	Median 620.	USGS
11/5 0900		58	8.5	83	487	7.3 7.8	2.15 <sup>c</sup>		50 2.18		0 0.00	95 1.56		73 2.06			0.3			276 <sup>e</sup>	50	107	29	9	Maximum 24,000 <sup>+</sup>	
12/3 1330		50	9.6	85	343	7.2 7.8	1.56 <sup>c</sup>		36 1.57		0 0.00	70 1.15		47 1.33			0.1			194 <sup>e</sup>	50	78	21	10	Minimum 62.	
1/10/64 0825		47	10.4	88	468	7.3 8.1	2.12 <sup>c</sup>		50 2.18		0 0.00	90 1.48		66 1.86			0.1			265 <sup>e</sup>	51	106	32	8		
2/3 1430		52	9.7	88	610	7.3 8.0	2.68 <sup>c</sup>		64 2.78		0 0.00	105 1.72		89 2.51			0.2			345 <sup>e</sup>	51	134	48	20		
3/5 0945		54	8.2	76	1060	7.7 8.0	4.04 <sup>c</sup>		119 5.18		0 0.00	136 2.23		192 5.13			0.5			599 <sup>e</sup>	56	202	40	6		
4/9 0820		62	11.8	121	931	8.5 8.1	3.98 <sup>c</sup>		114 4.60		0 0.00	154 2.52		160 4.51			0.4			527 <sup>e</sup>	54	199	73	15		
5/8 0800		63	4.7	49	766	7.7 7.5	4.2 2.10	17 1.42	86 3.74	6.2 0.16	0 0.00	154 2.52	49 1.02	130 3.67	9.4 0.15	0.3 0.02	0.3	15	ABS 0.3 PO <sub>4</sub> 0.01 As 0.01	431 <sup>f</sup> 437 <sup>g</sup>	50	176	50	10		
6/11 0815		69	5.5	61	792	7.7 7.4	3.48 <sup>c</sup>		98 4.26		0 0.00	152 2.49		130 3.84			0.3			448 <sup>e</sup>	55	174	49	10		
7/6 0830		74	5.2	60	713	7.5 8.3	3.26 <sup>c</sup>		73 3.18		2 0.07	136 2.23		123 3.47			0.3			404 <sup>e</sup>	49	163	48	20		
8/6 0815		78	4.2	51	544	7.3 8.0	2.58 <sup>c</sup>		54 2.35		0 0.00	119 1.95		85 2.40			0.2			308 <sup>e</sup>	48	129	31	15		
9/3 0815		72	4.6	52	602	7.7 7.1	3.3 1.65	14 1.13	63 2.74	5.4 0.14	0 0.00	150 2.46	22 0.46	91 2.57	12 0.19		0.2	13	ABS 0.3 PO <sub>4</sub> 1.50 As 0.00	328 <sup>f</sup> 333 <sup>g</sup>	48	139	16	20		

TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT JERSEY POINT (STA. 28b)

[illegible]



TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT JERSEY POINT (STA. 28b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in equivalents per million										parts per million			Total dissolved solids in ppm	Per- cent sodium in ppm	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform <sup>m</sup> MPN/ml	Analyzed by																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
6/11/64 1025					297			25									32						188	37																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

ANALYSES OF SURFACE WATER

SAN JOAQUIN RIVER AT JERSEY POINT (STA. 286)

158



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
SAN JOAQUIN RIVER AT JERSEY POINT (STA. 286)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in										parts per million					Total dis- solved solids in ppm g	Per- cent sod- ium	Hardness as CaCO <sub>3</sub> ppm		Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by
							equivalents per million										equivalents per million											
							Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)	Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents									
9/24/64 1400		68			290			31						36							208	46						USBR
9/28 1210		68			306			34						41							240	48						

TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT MOSSDALE BRIDGE (STA. 102)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by	
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents
10/3/63 1230	Tidal	69	8.5	94	651	7.3 8.1	2.96 <sup>c</sup>		72 3.13		0 0.00	14.2 2.33		97 2.74			0.0			148	32	5	Median 95.	USGS
11/5 0945		58	8.8	86	474	7.3 8.0	2.11 <sup>c</sup>		50 2.18		0 0.00	87 1.43		73 2.06			0.3			105	34	8	Maximum 7000.	
12/3 1415		50	9.2	81	348	7.3 8.0	1.60 <sup>c</sup>		36 1.57		0 0.00	71 1.16		48 1.35			0.1			80	22	4	Minimum 2.3	
1/10/64 0930		48	10.5	90	489	7.4 7.8	2.12 <sup>c</sup>		51 2.22		0 0.00	97 1.59		70 1.97			0.2			106	26	5		
2/4 1330		51	10.5	94	665	7.3 8.0	2.96 <sup>c</sup>		76 3.31		0 0.00	112 1.84		99 2.79			0.2			148	56	10		
3/5 1415		57	17.5	169	1190	8.5 8.2	5.36 <sup>c</sup>		135 5.87		0 0.00	168 2.75		227 6.40			0.5			268	130	6		
4/9 0910		64	15.7	164	1200	8.5 8.2	5.40 <sup>c</sup>		134 5.83		0 0.00	172 2.82		224 6.32			0.4			270	129	20		
5/4 0900		64	14.2	148	961	8.4 <sup>f</sup> 7.9	5.2 2.59	23 1.93	108 4.70	3.4 0.09	0 0.00	170 2.79	73 1.52	172 4.85	8.1 0.13	0.2 0.01	0.3	26	ABS 0.1 PO <sub>4</sub> 0.60	226	87	20		
6/11 1145		70	13.4	148	917	8.3 8.2	4.20 <sup>c</sup>		101 4.39		0 0.00	172 2.82		148 4.13			0.2			210	69	15		
7/6 0930		74	13.8	162	1280	8.4 <sup>f</sup> 8.1	5.72 <sup>c</sup>		133 5.79		0 0.00	184 3.02		252 7.11			0.4			286	135	10		
8/6 0900		77	9.6	105	1300	8.3 7.9	5.86 <sup>c</sup>		147 6.39		0 0.00	190 3.11		272 7.67			0.4			290	134	20		
9/3 0900		71	12.8	144	1050	8.3 7.6	5.5 2.74	25 2.02	113 4.92	2.1 0.05	0 0.00	183 3.00	76 1.58	182 5.13	4.5 0.07		0.4	28	ABS 0.1 PO <sub>4</sub> 0.50	238	88	10		



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT SAN ANDREAS LANDING (STA. 1126)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>b</sup> MPN/ml	Analyzed by <sup>1</sup>								
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents							
10/18/63 1110		64			162	7.5	13	6.1	9.2	1.6	0.0	68	7.7	11	0.0					140	25									USBR	
11/12 1150		57			214	8.0	15	6.2	16	2.0	0.0	76	12	20	1.2					160	35										
12/17 1145		49			236	8.3	17	6.6	17	1.6	0.0	68	16	24	0.0					204	35										
1/13/64 1340		46			325	7.6	21	9.2	27	2.0	0.0	74	32	37	1.2					252	39										
2/10 1035		50			338	7.6	22	8.2	24	2.3	0.0	68	28	34	1.2					180	36										
3/9 1015		50			193	7.7	16	7.1	12	1.6	0.0	72	14	13	0.0					192	26										
4/15 1150		63			154	6.9	13	6.6	7.4	1.2	0.0	62	2.6	7.1	0.0					108	21										
5/11 1150		64			194	7.3	15	7.0	12	1.2	0.0	76	16	11	0.0					148	29										
6/18 1225		66			207	7.3	16	6.3	15	1.2	0.0	76	14	11	0.0					152	32										
7/17 1300		75			243	6.9	13	9.8	19	1.9	0.0	71	14	30	0.0					180	26										
8/10 1430		73			189	7.9	13	6.7	15	1.2	0.0	71	7.7	18	0.0					136	35										
9/17 1245		69			224	8.1	17	8.3	18	2.0	0.0	99	12	16	0.0					192	33										

TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

STOCKTON SHIP CHANNEL ON RINDOM ISLAND (STA. 100)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH at 25°C	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>	
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents
10/7/63 1150	Tidal	74	5.7	67	676	7.3 8.1	3.08 <sup>e</sup>		74 3.22		0 0.00	156 2.56		107 3.02		0.1			154	26	9	Median 23.	USGS	
11/6 1125		59	8.2	81	538	7.3 8.1	2.33 <sup>e</sup>		58 2.52		0 0.00	102 1.67		86 2.43		0.3			117	33	8	Maximum 950.		
12/2 1515		49	6.9	60	375	7.1 8.1	1.76 <sup>e</sup>		38 1.65		0 0.00	80 1.31		52 1.47		0.1			88	22	5	Minimum 0.62		
1/6/64 1245		47	9.7	82	484	7.2 8.2	2.28 <sup>e</sup>		49 2.13		0 0.00	77 1.26		76 2.14		0.1			114	51	5			
2/3 1130		51	7.5	68	560	7.1 7.9	2.46 <sup>e</sup>		61 2.65		0 0.00	95 1.56		82 2.31		0.2			123	45	9			
3/2 1345		51	10.6	95	644	7.3 7.8	2.92 <sup>e</sup>		69 3.00		0 0.00	105 1.72		107 3.02		0.3			146	60	9			
4/6 1555		60	12.4	124	672	8.4 8.1	3.08 <sup>e</sup>		72 3.13		0 0.00	108 1.77		111 3.13		0.2			154	65	20			
5/4 1140		63	10.5	109	406	8.3 7.9	2.3 1.15	11 0.93	40 1.74	2.2 0.06	0 0.00	88 1.44	33 0.69	59 1.66	1.2 0.02	0.0 0.00	8.2	ABS 0.1 PO <sub>4</sub> 0.30	104	32	20			
6/8 1315		65	9.0	95	442	7.9 7.8	2.26 <sup>e</sup>		48 2.09		0 0.00	102 1.67		66 1.86		0.1			113	29	15			
7/7 1000		77	8.1	97	297	7.5 8.1	1.86 <sup>e</sup>		26 1.13		0 0.00	92 1.51		34 0.96		0.2			90	15	30			
8/6 1345		78	6.8	82	305	7.3 8.3	1.60 <sup>e</sup>		27 1.17		1 0.03	83 1.36		39 1.10		0.1			80	10	35			
9/1 0915		72	7.6	87	357	7.3 7.8	21 1.05	10 0.83	34 1.48	2.1 0.05	0 0.00	90 1.48	20 0.42	52 1.47	3.9 0.06	0.1	14	ABS 0.0 PO <sub>4</sub> 0.25	94	20	30			



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

STONY CREEK BELOW BLACK BUTTE DAM (STA. 13c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a, b	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>		
			ppm	% Sat			equivalents per million																		
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents	
10/9/63 1130	128	69	10.5	117	351	8.3 8.2	3.24 <sup>c</sup>		13 0.57		0 0.00	197 3.23		12 0.34			0.1			15	162	0	45	Median 1.5	USGS
11/5	Not Sampled			No Flow																					
12/3 1410	38	52	11.7	107	355	7.9 8.2	2.88 <sup>c</sup>		17 0.74		0 0.00	152 2.49		26 0.73			0.1			20	144	19	30	Maximum 230.	
1/7/64 0825	24	46			372	7.9 8.1	3.04 <sup>c</sup>		19 0.83		0 0.00	164 2.69		28 0.79			0.1			21	152	18	2	Minimum 0.23	
2/4 1220	12	46	12.5	106	345	8.1 8.3	2.76 <sup>c</sup>		16 0.70		3 0.10	142 2.33		26 0.73			0.1			20	138	17	20		
3/3 1135	8	45	12.3	103	326	8.2 8.2	2.66 <sup>c</sup>		15 0.65		0 0.00	140 2.29		24 0.68			0.1			20	133	18	7		
4/8 0920	36	57	12.3	119	329	8.4 8.3	2.76 <sup>c</sup>		15 0.65		1 0.03	143 2.34		23 0.65			0.1			19	138	19	2		
5/5 0815	56	60	9.9	100	325	8.0 8.3	3.3 1.65	12 0.99	15 0.65	1.5 0.04	4 0.13	140 2.29	15 0.31	21 0.59	1.1 0.02	0.0 0.00	0.0	7.4	ABS 0.0 PO <sub>4</sub> 0.10	183 <sup>f</sup>	132	11	3		
6/10 1130	10 est.	71	11.7	133	331	8.4 8.5	2.82 <sup>c</sup>		17 0.74		4 0.13	150 2.46		23 0.65			0.2			21	141	11	5		
7/8 0810	104	73	9.8	114	338	8.0 8.5	2.88 <sup>c</sup>		16 0.70		8 0.27	150 2.46		21 0.59			0.3			20	144	8	2		
8/4 0900	114	79	9.3	114	356	8.0 8.2	3.04 <sup>c</sup>		18 0.78		0 0.00	177 2.90		22 0.62			0.3			20	152	7	3		
9/3 0745	2 est.	68	6.4	71	341	8.0 8.1	3.0 1.50	15 1.26	20 0.87	2.0 0.05	0 0.00	162 2.66	13 0.27	24 0.68	1.3 0.02		0.3	3.2	ABS 0.0 PO <sub>4</sub> 0.10	192 <sup>f</sup>	138	5	10		

TABLE D-2

-111-



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

THOMES CREEK NEAR MOUTH (STA. 95b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub> Total ppm	Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by 1			
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents

10/11/63	Not Sampled	--	No Flow																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
----------	-------------	----	---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
THOMES CREEK NEAR PASKENTIA (STA. 13d)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent sodium	Hardness as CaCO <sub>3</sub> Total ppm	Tur- bidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by i			
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents
10/9/63 1230	7.0	70	11.0	126	411	8.4 8.5	3.52		16 0.70		5 0.17	147 2.41		28 0.79			0.0			176	47	1		USGS	
11/5 1135	115	51	10.5	97	232	7.8 7.9	2.00		7.3 0.32		0 0.00	107 1.75		2.7 0.27			0.1			100	12	35			
12/3 1500	130	46	11.7	101	171	7.6 7.9	1.54		4.6 0.20		0 0.00	86 1.41		3.0 0.08			0.1			77	6	5			
1/7/64 0930	74	42			211	7.8 8.5	1.92		6.6 0.29		4 0.13	104 1.70		5.7 0.16			0.0			96	4	2			
2/4 1320	304	46	11.9	103	144	7.8 8.2	1.30		4.7 0.20		0 0.00	74 1.21		2.0 0.06			0.2			65	4	15			
3/3 1220	120	45	12.0	102	190	7.2 8.3	1.72		5.2 0.26		1 0.03	92 1.51		5.8 0.16			0.1			86	9	1			
4/6 1010	159	52	11.5	107	163	7.2 8.3	1.48		4.9 0.21		2 0.07	79 1.29		3.5 0.10			0.0			74	6	2			
5/5 0905	130	49	11.5	103	170	7.2 8.3	2.2 1.10	5.4 0.44	5.4 0.23	0.7 0.02	4 0.13	77 1.26	11 0.23	4.0 0.11	1.6 0.03	0.0 0.00	0.0	1.2 0.00	ABS 0.0 As 0.00 PO <sub>4</sub> 0.00	104 <sup>f</sup>	7	1	1		
6/10 1215	56	62	10.0	105	206	8.4 8.5	1.88		6.8 0.30		4 0.13	96 1.57		6.0 0.17			0.1			94	9	2			
7/8 0900	11.4	74	8.6	103	292	8.2 8.4	2.64		11 0.48		3 0.10	126 2.07		16 0.45			0.1			132	24	1			
8/4 0950	2.8	74	8.4	100	334	8.0 8.2	2.88		15 0.65		0 0.00	114 1.87		30 0.85			0.2			134	41	9			
9/3 0850	1.8	67	8.9	99	409	8.0 8.2	4.3 2.15	11 0.93	21 0.91	0.9 0.02	0 0.00	104 1.70	38 0.79	50 1.41	0.1 0.00		0.2	1.1 0.00	ABS 0.0 As 0.00 PO <sub>4</sub> 0.00	245 <sup>f</sup>	69	1	1		



TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
YUBA RIVER AT MARYSVILLE (STA. 21)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH at 25°C	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub> in ppm		Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by						
			ppm	% Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potos- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents					
11/7/63 1110	315	58	9.5	93	137	7.7 8.0	1.26 <sup>c</sup>		3.7 0.16			0 0.00	66 1.08		2.5 0.07		0.0					60	12	95 <sup>e</sup>		6	9	Median 5.0	USGS
1/7/64 1240	850	47	12.2	104	94	7.3 8.0	0.82 <sup>c</sup>		2.8 0.12			0 0.00	45 0.74		3.5 0.10		0.0					41	13	65 <sup>e</sup>		4	2	Maximum 62.	
3/3 1005	1260	44	12.2	99	95	7.5 8.0	0.83 <sup>c</sup>		4.1 0.18			0 0.00	47 0.77		2.6 0.07		0.0					42	18	66 <sup>e</sup>		3	3	Minimum 0.13	
5/5 1015	1740	53	11.3	104	77	7.3 7.9	0.48	2.4 0.20	2.3 0.10	0.2 0.01		0 0.00	40 0.66	3.0 0.06	2.0 0.06	0.8 0.01	0.0 0.00	0.0	14	ABS 0.0 PO <sub>4</sub> 0.00	As 0.01	34	13	54 <sup>f</sup> 53 <sup>g</sup>		1	4		
7/10 1100	112	75	8.8	103	118	7.4 8.2	1.04 <sup>c</sup>		3.4 0.15			0 0.00	58 0.95		1.0 0.03		0.0					52	13	82 <sup>e</sup>		4	1		
9/4 1245	236	74	9.7	113	126	7.7 7.9	0.75 <sup>e</sup>	4.7 0.39	3.3 0.14	0.8 0.02		0 0.00	64 1.05	8.0 0.17	1.0 0.03	0.3 0.00		0.0	15	ABS 0.1 PO <sub>4</sub> 0.10	As 0.01	57	11	80 <sup>f</sup> 80 <sup>g</sup>		5	1		

TABLE D-2  
ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)  
YUBA RIVER NEAR SMARTVILLE (STA. 21a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>		
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents	
																								ABS	As
11/7/63 1215	430	57	10.0	97	112	7.4 8.0	1.00 <sup>e</sup>		3.0 0.13		0.00	54 0.89		3.0 0.08			0.0			6	4	Median 0.6	USGS		
1/7/64 1100	900	46	13.0	110	84	8.1 7.9	0.73 <sup>c</sup>		2.4 0.10		0.00	40 0.66		3.0 0.08			0.0			3	2	Maximum 62.			
3/3 1110	1310	46	13.1	111	92	8.4 8.1	0.79 <sup>c</sup>		3.6 0.16		0.00	46 0.75		2.8 0.08			0.0			2	1	Minimum 0.06			
5/5 1215	2100	53	11.1	103	70	7.3 8.0	2.8 0.49	1.7 0.14	2.5 0.11	0.2 0.01	0.00	38 0.62	4.0 0.08	1.8 0.05	1.0 0.02	0.0 0.00	1.3	ABS 0.0 PO <sub>4</sub> 0.00	1	1					
7/10 0930	510	72	9.5	109	73	7.5 7.8	0.64 <sup>c</sup>		2.5 0.11		0.00	38 0.62		0.5 0.01			0.0			1	1				
9/10 1245	560	75	12.2	145	115	8.1 8.2	15 0.75	3.0 0.25	3.1 0.13	0.8 0.02	0.00	58 0.95	5.0 0.10	1.2 0.03	0.5 0.01		0.0	1.5	ABS 0.0 PO <sub>4</sub> 0.00	2	1				





TABLE D-2

## ANALYSES OF SURFACE WATER

LAHONTAN REGION (NO. 6)

CARSON RIVER, EAST FORK NEAR MARLBOROUGH (STA. 115)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH at 25	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent sodium	Hardness as CaCO <sub>3</sub> in ppm		Turbid- ity in ppm	Coliform MPN/ml	Analyzed by	
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents
11/7/63 1000		34	11.1	95	131	7.3 7.8	0.92 <sup>c</sup>	7.2 0.31		0 0.00	63 1.03		2.7 0.08		0.2		97 <sup>e</sup>	25	46	0	5	Median 2.4	UEGS	
1/9/64 1000		32	12.1	100	145	7.4 8.1	1.04 <sup>c</sup>	9.0 0.39		0 0.00	71 1.16		3.2 0.09		0.1		107 <sup>e</sup>	27	52	0	1	Maximum 23.		
3/5 0915		35	11.4	99	145	7.3 8.3	1.02 <sup>c</sup>	9.6 0.42		1 0.03	72 1.18		5.5 0.16		0.3		107 <sup>e</sup>	29	51	0	5	Minimum 0.93		
5/7 0845		35	12.1	105	97	7.5 8.0	1.1 0.55	6.5 0.28	0.6 0.02	0 0.00	49 0.80	4.0 0.08	4.0 0.11	1.5 0.02	0.2 0.01	0.1	19	73 <sup>f</sup> 658	28	35	0	1		
7/14 0845		59	8.5	103	97	7.7 8.1	0.76 <sup>c</sup>	6.1 0.27		0 0.00	50 0.82		1.5 0.04		0.1		72 <sup>e</sup>	26	38	0	4			
9/15 0915		53	9.2	103	144	7.7 7.9	1.6 0.80	9.2 0.40	1.7 0.04	0 0.00	79 1.29	8.0 0.17	3.0 0.08	0.9 0.01	0.0	20	101 <sup>f</sup> 1058	27	53	0	1			



TABLE D-2

## ANALYSES OF SURFACE WATER

LAHONTAN REGION (NO. 6)

CARSON RIVER, WEST FORK AT WOODFORDS (STA. 115a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a 5	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Turbid- ity in ppm	Coliform h MPN/ml	Analyzed by			
			ppm	% Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents		
11/7/63 0930	29	33	11.3	96	74	7.3	0.57 <sup>c</sup>		3.0 0.13		0 0.00	40 0.66		0.1 0.00			0.2			60 <sup>e</sup>	19	28	0	2	Median 4.6	USGS
1/9/64 0915	24	32	12.3	103	75	7.1	0.60 <sup>c</sup>		3.8 0.17		0 0.00	41 0.67		1.5 0.04			0.0			61 <sup>e</sup>	22	30	0	1	Maximum 60.	
3/5 1000	37	35	11.3	99	74	7.1	0.58 <sup>c</sup>		3.8 0.17		0 0.00	40 0.66		1.0 0.03			0.0			60 <sup>e</sup>	23	29	0	0	Minimum 0.23	
5/7 0805	105	34	11.6	100	59	7.2	7.6 0.38	1.2 0.10	3.1 0.13	0.4 0.01	0 0.00	33 0.54	1.0 0.02	1.8 0.05	1.9 0.03	0.1 0.01	0.1	17	ABS 0.1 As 0.01 PO <sub>4</sub> 0.00	50 <sup>f</sup> 568	21	24	0	3		
7/14 0815	37	59	8.2	99	68	7.5	0.54 <sup>c</sup>		3.1 0.13		0 0.00	36 0.59		0.5 0.01			0.0			56 <sup>e</sup>	19	27	0	3		
9/15 0830	11	50	9.3	102	84	7.5	1.1 0.55	1.3 0.11	4.3 0.19	1.8 0.05	0 0.00	48 0.79	2.0 0.04	0.4 0.01	0.8 0.01	0.0	21	ABS 0.0 As 0.00 PO <sub>4</sub> 0.00	67 <sup>f</sup> 658	21	33	0	1			

TABLE D-2  
ANALYSES OF SURFACE WATER  
LAHONTAN REGION (NO. 6)  
LAKE TAHOE AT TAHOE CITY (STA. 38)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform MPN/ml	Analyzed by				
			ppm	%Sat			equivalents per million																				
							Calcium (Ca)	Magne-sium (Mg)	Sodium (Na)	Potas-sium (K)	Carbon-ate (CO <sub>3</sub> )	Bicar-bonate (HCO <sub>3</sub> )	Sul-fate (SO <sub>4</sub> )	Chlo-ride (Cl)	Ni-trate (NO <sub>3</sub> )	Fluo-ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents			
11/8/63 0930		48	8.8	95	92	7.5 7.9	0.65 <sup>c</sup>		5.4 0.23		0 0.00	51 0.84		3.4 0.10				0.0			62 <sup>e</sup>	26	33	0	1	Median 0.23	USGS
1/10/64 1015		37	9.9	91	92	7.3 8.1	0.63 <sup>c</sup>		6.1 0.27		0 0.00	48 0.79		2.2 0.06				0.1			62 <sup>e</sup>	30	32	0	5	Maximum 0.62	
3/6 1015		37	10.0	92	94	7.1 8.2	0.65 <sup>c</sup>		6.1 0.27		0 0.00	50 0.82		3.6 0.10				0.0			63 <sup>e</sup>	29	32	0	2	Minimum 0.045	
5/8 0905		43	9.8	99	93	7.1 7.9	1.1 0.55	1.1 0.09	5.9 0.26	1.5 0.04	0 0.00	50 0.82	1.0 0.02	4.0 0.11	0.7 0.01	0.0 0.00		0.0	13	ABS 0.0 PO <sub>4</sub> 0.00	63 <sup>f</sup> 608	28	32	0	1		
7/13 1030		64	8.5	112	92	7.7 8.1	0.65 <sup>c</sup>		6.4 0.28		0 0.00	50 0.82		1.5 0.04				0.1			62 <sup>e</sup>	30	32	0	1		
9/14 1115		63	8.6	112	95	8.1 8.2	1.1 0.55	1.6 0.13	6.5 0.28	1.7 0.04	0 0.00	52 0.85	3.0 0.06	1.4 0.04	0.0 0.00			0.0	16	ABS 0.0 PO <sub>4</sub> 0.00	67 <sup>f</sup> 668	28	34	0	1		



TABLE D-2

## ANALYSES OF SURFACE WATER

LAHONTAN REGION (NO. 6)

SUSAN RIVER AT SUSANVILLE (STA. 176)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Specific conductance (micromhos at 25°C)		pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>			
			ppm	% Sat		Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents		
10/10/63 0630	8.7	50	9.3	95	7.8 8.2	1.60 <sup>c</sup>	5.6 0.24	4.2 0.18		0 0.00	112 1.84		1.2 0.03			0.0				13	80	0	3	Median 6.2	USGS
11/6 1615	43	44	10.4	99	7.5 7.7	1.18 <sup>c</sup>	4.2 0.18			0 0.00	81 1.33		1.4 0.04			0.0				13	59	0	15	Maximum 620.	
12/4 1130	21	33	12.4	100	7.5 8.0	1.34 <sup>c</sup>	4.9 0.21			0 0.00	95 1.56		0.5 0.01			0.0				14	67	0	4	Minimum 0.62	
1/8/64 1345	16	34			7.6 8.3	1.36 <sup>c</sup>	2.7 0.25			1 0.03	93 1.52		2.2 0.06			0.0				16	68	0	1		
2/5 1800	26	32	12.3	98	7.9 8.2	1.34 <sup>c</sup>	2.9 0.26			0 0.00	93 1.52		1.0 0.03			0.0				16	67	0	1		
3/4 1250	20	42	11.3	105	7.9 8.3	1.34 <sup>c</sup>	2.5 0.24			2 0.07	88 1.44		3.0 0.08			0.0				15	67	0	2		
4/9 0755	125	39	11.7	103	7.5 8.2	0.96 <sup>c</sup>	2.1 0.22			0 0.00	64 1.05		1.6 0.05			0.0				19	48	0	10		
5/6 0640	85	34	12.0	99	7.3 8.2	1.1 0.55	4.0 0.33	4.0 0.17	0.8 0.02	0 0.00	60 0.98	1.0 0.02	1.0 0.03	1.4 0.02	0.0 0.00	0.0	23	AMS PO <sub>4</sub>	74 <sup>f</sup>	16	44	0	4		
6/11 1230	129	56	9.1	101	7.6 7.8	0.63 <sup>c</sup>	3.0 0.13			0 0.00	40 0.66		1.0 0.03			0.0				17	32	0	5		
7/2 1500	91	70	8.0	103	7.7 7.8	0.61 <sup>c</sup>	3.2 0.14			0 0.00	39 0.64		1.0 0.03			0.0				19	30	0	15		
8/6 1125	3.9	70	7.5	98	7.9 8.0	1.66 <sup>c</sup>	6.5 0.28			0 0.00	116 1.96		1.0 0.03			0.0				14	83	0	2		
9/3 1120	5.4	57	9.4	105	7.8 7.9	1.2 0.95	2.6 0.79	7.0 0.30	2.3 0.06	0 0.00	122 2.00	1.0 0.02	0.8 0.02	1.0 0.02		0.0	38	AMS PO <sub>4</sub>	126 <sup>f</sup>	14	87	0	1		

TABLE D-2  
ANALYSES OF SURFACE WATER  
LAHONTAN REGION (NO. 6)  
TRUCKEE RIVER NEAR PARAD (STA. 53)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH at 25	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by				
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents			
10/11/63 1015	418	53	9.4	104	87	7.3 7.4	8.3 0.41	2.6 0.21	4.7 0.20	1.9 0.05	0 0.00	45 0.74	2.1 0.04	1.9 0.05	0.8 0.01	0.0 0.00	0.04	12	PO <sub>4</sub> 0.01 Color 10	NH <sub>4</sub> 0.00	56 <sup>f</sup> 628	23	31	0	0.7	Median 2.4	DWR
11/8 0830	421	49	10.0	105	105	7.3 7.0	9.5 0.47	2.8 0.23	5.4 0.23	1.7 0.04	0 0.00	50 0.82	3.1 0.06	2.0 0.06	0.6 0.01	0.1 0.00	0.14	14	PO <sub>4</sub> 0.08 Color 2	NH <sub>4</sub> 0.58	63 <sup>f</sup> 628	24	35	0	4.0	Maximum 2400.	
12/6 1115	386	38	11.6	105	93	7.3 6.8	9.5 0.47	2.8 0.23	5.0 0.22	1.5 0.04	0 0.00	48 0.79	1.6 0.03	2.0 0.06	1.2 0.02	0.1 0.00	0.2	17	PO <sub>4</sub> 0.04 Color 10	NH <sub>4</sub> 0.00	65 <sup>f</sup> 668	23	35	0	4	Minimum 0.13	
1/10/64 0845	410	34	11.4	96	102	7.3 7.5	9.5 0.47	3.3 0.27	5.7 0.25	1.8 0.05	0 0.00	52 0.85	2.3 0.05	2.4 0.07	0.7 0.01	0.2 0.01	0.1	16	PO <sub>4</sub> 0.02 Color 2	NH <sub>4</sub> 0.00	68 <sup>f</sup> 728	24	37	0	1.1		
2/7 1015	368	33	12.3	102	106	7.3 7.5	10 0.50	3.2 0.26	5.9 0.26	1.7 0.04	0 0.00	54 0.88	2.1 0.04	2.9 0.08	0.2 0.00	0.1 0.00	0.0	17	PO <sub>4</sub> 0.04 Color 2	NH <sub>4</sub> 0.01	69 <sup>f</sup> 698	24	38	0	4		
3/6 0915	340	36	11.6	101	107	7.3 7.1	10 0.50	3.6 0.30	5.8 0.25	1.8 0.05	0 0.00	53 0.87	4.9 0.10	2.8 0.08	0.1 0.00	0.1	0.1		PO <sub>4</sub> 0.02 Color 2	NH <sub>4</sub> 0.01	71 <sup>g</sup> 718	23	40	0	4		
4/10 0925	547	41	10.8	102	98	7.8 7.3	10 0.50	2.9 0.24	5.4 0.23	1.6 0.04	0 0.00	48 0.79	3.1 0.06	1.2 0.03	0.9 0.01	0.2 0.00	0.0		PO <sub>4</sub> 0.28 Color 25	NH <sub>4</sub> 0.04	74 <sup>g</sup> 748	23	37	0	1		
5/8 0730	950	43	10.6	103	82	7.5 7.8	8.0 0.40	2.9 0.24	4.2 0.18	1.2 0.03	0 0.00	43 0.70	2.3 0.05	1.6 0.04	0.2 0.00	0.2 0.00	0.0		PO <sub>4</sub> 0.00 Color 2	NH <sub>4</sub> 0.07	57 <sup>g</sup> 578	21	32	0	7		
6/10 0930	848	51	9.6	104	71	7.5 7.8	7.1 0.35	2.3 0.19	3.4 0.15	1.1 0.03	0 0.00	38 0.62	1.5 0.03	1.7 0.05	0.8 0.01	0.8 0.01	0.1		PO <sub>4</sub> 0.04 Color 10	NH <sub>4</sub> 0.11	54 <sup>e</sup> 548	21	27	0	10		
7/13 1215	515	64	8.3	105	78	7.7 7.9	7.7 0.38	2.7 0.22	4.2 0.18	1.1 0.03	0 0.00	42 0.69	2.5 0.05	1.0 0.03	0.9 0.01	0.9 0.01	0.0		PO <sub>4</sub> 0.02 Color 10	NH <sub>4</sub> 0.00	62 <sup>g</sup> 628	22	30	0	2		
8/3 0930	565	65	7.9	101	82	7.8 7.9	8.6 0.43	2.3 0.19	4.4 0.19	1.3 0.03	0 0.00	47 0.77	1.6 0.03	0.8 0.02	0.9 0.01	0.9 0.01	0.0		PO <sub>4</sub> 0.02 Color 10	NH <sub>4</sub> 0.00	61 <sup>g</sup> 618	23	31	0	4		
9/14 1245	525	59	8.7	104	85	7.7 7.7	13 0.65	0.1 0.01	4.8 0.21	1.6 0.04	0 0.00	44 0.72	0.6 0.01	3.0 0.08	0.5 0.01	0.5 0.01	0.1		PO <sub>4</sub> 0.07 Color 10	NH <sub>4</sub> 0.00	56 <sup>g</sup> 568	23	33	0	2		



TABLE D-2  
ANALYSES OF SURFACE WATER  
LAHONTAN REGION (NO. 6)

TRUCKEE RIVER NEAR TRUCKEE (STA. 52)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (microhmhos at 25°C)	pH at 5	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub> in ppm		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>			
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents		
11/8/63 0915		45	9.5	97	98	7.3 7.8	0.71 <sup>c</sup>		5.2 0.23			0 0.00	50 0.82		3.5 0.10			0.0				35	0	2	Median 2.3	USGS
1/10/64 0945		34	11.2	97	97	7.3 8.2	0.68 <sup>c</sup>		6.1 0.27			0 0.00	50 0.82		2.8 0.08			0.1				34	0	4	Maximum 6.2	
3/6 1045		35	11.0	97	101	7.1 8.2	0.96 <sup>c</sup>		6.6 0.29			0 0.00	52 0.85		4.0 0.11			0.0				48	5	10	Minimum <0.045	
5/8 0825		41	10.9	105	90	7.3 7.5	2.6 0.48	2.4 0.20	4.7 0.20	0.5 0.01	0 0.00	41 0.67	6.0 0.12	3.8 0.11	0.8 0.01	0.0 0.00		0.0	12	ABS 0.0 PO <sub>4</sub> 0.00		34	0	1		
7/13 1115		66	8.2	109	98	7.7 8.1	0.72 <sup>c</sup>		6.1 0.27		0 0.00	51 0.84		1.5 0.04				0.0				36	0	1		
9/14 1200		61	8.5	106	99	7.7 8.1	8.4 0.42	3.2 0.26	6.2 0.27	1.9 0.05	0 0.00	51 0.84	3.0 0.06	1.9 0.05	0.2 0.00			0.2	13	ABS 0.0 PO <sub>4</sub> 0.05		34	0	1		

TABLE D-2  
ANALYSES OF SURFACE WATER  
LAHONTAN REGION (NO. 6)  
WALKER RIVER, EAST NEAR BRIDGEPORT (STA. 116a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH $\frac{a}{b}$	Mineral constituents in equivalents per million										parts per million			Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO <sub>3</sub>		Tur- bid- ity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by i
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)	Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents							
11/7/63 1245	22	47	9.4	101	179	8.4 8.1	1.33 <sup>c</sup>	10 0.44				0 0.00	97 1.59		0.3 0.01			0.2				0	9	Median 0.21	UBGS	
1/9/64 1200	21	40	9.9	97	200	7.7 8.3	1.48 <sup>c</sup>	12 0.52				5 0.17	102 1.67		2.0 0.06			0.0				0	2	Maximum 0.62		
3/5 1230	19	43	9.2	94	227	7.5 8.5	1.68 <sup>c</sup>	14 0.61				3 0.10	122 2.00		1.5 0.04			0.1				0	0	Minimum 0.03		
5/7 1110	151	47	9.8	106	229	8.2 8.1	28 1.40	15 0.65	3.4 0.28			0 0.00	123 2.02	14 0.29	2.5 0.07	1.5 0.02	0.2 0.01	0.1	17	ABS 0.0 PO <sub>4</sub> 0.15	As 0.01	0	5			
7/14 1115	231	67	7.6	105	231	8.1 8.4	1.70 <sup>c</sup>	15 0.65				3 0.10	127 2.08		3.0 0.08			0.2				0	2			
9/15 1215	134	61	7.1	91	246	7.7 8.0	30 1.50	15 0.65	4.6 0.38			0 0.00	138 2.26	14 0.29	2.4 0.07	1.8 0.03		0.0	8.5	ABS 0.0 PO <sub>4</sub> 0.00	As 0.01	0	7			



TABLE D-2  
ANALYSES OF SURFACE WATER  
LAHONTAN REGION (NO. 6)

WALKER RIVER, WEST NEAR COLEVILLE (STA. 116)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH $\frac{a}{b}$	Mineral constituents in parts per million										Total dissolved solids in ppm	Per-cent sodium	Hardness as CaCO <sub>3</sub>		Turbidity in ppm	Coliform <sup>h</sup> MPN/ml	Analyzed by <sup>i</sup>			
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)			Boron (B)	Silica (SiO <sub>2</sub> )				Other constituents		
11/7/63 1145	85	36	11.1	103	106	7.3 7.8	0.69 <sup>c</sup>		7.4 0.32		0 0.00	54 0.89		0.9 0.03		0.2				72 <sup>e</sup>	32	34	0	1	Median 2.1	USGS
1/9/64 1115	50	32	11.4	99	163	7.5 8.2	0.88 <sup>c</sup>		18 0.78		0 0.00	78 1.28		4.2 0.12		0.1			110 <sup>e</sup>	47	44	0	1	Maximum 6.2		
3/5 1115	75	36	11.0	102	131	7.1 8.1	0.84 <sup>c</sup>		10 0.44		0 0.00	67 1.10		2.0 0.06		0.1			88 <sup>e</sup>	34	42	0	0	Minimum 0.20		
5/7 1015	157	40	10.8	107	148	7.7 8.1	1.3 0.65	1.5 0.12	15 0.65	1.5 0.04	0 0.00	71 1.16	9.0 0.19	5.2 0.15	0.9 0.01	0.0 0.00	0.1	15	ABS 0.0 PO <sub>4</sub> 0.05	96 <sup>f</sup> 868	45	38	0	3		
7/14 1215	198	64	8.0	108	46	7.4 7.8	0.37 <sup>c</sup>		2.8 0.12		0 0.00	24 0.39		1.0 0.03		0.0			31 <sup>g</sup>	24	18	0	4			
9/15 1115	49	57	9.8	122	164	8.1 8.0	1.7 0.85	2.8 0.23	13 0.57	1.6 0.04	0 0.00	84 1.38	12 0.25	2.8 0.08	1.2 0.02		0.0	11	ABS 0.0 PO <sub>4</sub> 0.25	102 <sup>f</sup> 928	34	54	0	1		





TABLE D-3  
TRACE METAL ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

Station	Sta No.	Date 1964	Constituents in parts per billion															
			Alumi- num (Al)	Beryl- lium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chro- mium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germa- nium (Ge)	Manga- nese (Mn)	Molyb- denum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)
American River at Nimbus Dam	22a	5/6 9/1	1.4** 2.9	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4** 1.4*	1.4* 1.4*	4.0 5.4	0.57* 5.7*	0.29* 0.29*	1.4* 1.4*	0.29* 0.29*	0.29** 0.43	1.4* 1.4*	0.57* 0.57*	0.37 0.80	5.7* 5.7*
American River at Sacramento	22	5/4 9/1	2.5 13	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	3.1 9.7	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.29* 0.29*	0.29** 0.69	1.4* 1.4*	0.57* 0.57*	0.51 0.69	5.7* 5.7*
Bear River near Wheatland	78	5/5 9/4	1.4** 3.4	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4** 1.4*	1.4* 1.4*	4.3 4.3	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.29** 0.29**	0.42 0.37	1.4* 1.4*	0.57* 0.57*	0.46 1.5	5.7* 5.7*
Cache Creek near Capay	80	5/5 8/31	1.9 4.0	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4** 1.8	1.4* 1.4*	12.0 3.1	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.49 1.0	1.8 1.9	1.4* 1.4*	0.57* 0.57*	1.7 4.6	5.7* 5.7*
Cache Creek near Lower Lake	42	5/5 8/31	1.4 9.7	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4* 23	1.4* 1.4*	10 15	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.29** 0.29**	0.91 1.7	1.4* 1.4*	0.57* 0.57*	1.9 4.9	5.7* 5.7*
Clear Lake at Lakeport	41	5/5 8/31	7.7 4.9	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4** 1.4**	1.4* 1.4*	19 43	5.7* 5.7*	0.29* 0.29*	1.4* 27	0.29** 1.0	1.4 1.7	1.4* 1.4*	0.57* 0.57*	2.5 3.4	5.7* 5.7*
Delta Cross Channel Near Walnut Grove	98	5/6 9/2	3.7 2.3	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4** 1.4**	1.4* 1.4*	21 2.4	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.74 0.77	1.4 0.86	1.4* 1.4*	0.57* 0.57*	4.0 3.4	5.7* 5.7*
Feather River, Middle Fork near Merrimac	19b	5/7 9/11	11 4.6	0.57* 1.3*	0.29* 0.67*	1.4* 3.3*	1.4** 3.7	1.4* 3.3*	16 7.1	5.7* 13*	0.29* 0.67*	1.4* 3.3*	0.29** 0.67**	0.71 0.80	1.4* 3.3*	0.57* 1.3*	0.54 1.1	5.7* 13*
Feather River at Nicolaus	20	5/5 9/4	1.4** 5.7	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	8.0 12	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.29** 0.29**	0.29 0.46	1.4* 1.4*	0.57* 0.57*	0.74 2.1	5.7* 5.7*
Feather River near Oroville	19	5/7 9/4	2.6 6.9	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	18 4.9	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.29* 0.29**	0.51 0.46	1.4* 1.4*	0.57* 0.57*	0.69 1.1	5.7* 5.7*
Italian Slough at Mouth	106	9/3	25	0.57*	0.29*	1.4*	1.4*	1.4*	26	5.7*	0.29*	1.4*	1.5	1.1	1.4*	0.57*	6.9	5.7*
Mokelumne River at Lancha Plana	23a	9/17	19	0.57*	0.29*	1.4*	1.4*	1.4*	22	19	5.7*	0.29*	20	0.89	1.4*	0.57*	0.29**	314
Mokelumne River at Woodbridge	23	5/4 9/1	21 6.0	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4** 1.4**	1.4* 1.4*	71 23	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.29** 0.29*	0.29** 0.63	1.4* 1.4*	0.57* 0.57*	0.69 0.83	5.7* 5.7*
Old River at Wanderville Island	112	5/6 9/8	11 46	0.57* 0.57*	0.57* 0.29*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	25 49	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.29** 0.29**	0.59 0.91	1.4* 1.4*	0.57* 0.57**	4.9 6.9	5.7* 5.7*
Pit River near Capay	17a	5/6 9/3	2370 1270	0.57* 0.67*	0.29* 0.57*	1.4* 3.3*	1.4* 3.3*	1.4* 3.3*	100*** 137	5.7* 13*	0.29* 0.67*	1.4* 3.3*	0.29* 3.9	1.3 3.2	1.4* 3.3*	46 65	4.0 13	5.7* 13*
Putah Creek near Winters	81	5/5 9/2	1.4** 6.0	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4** 1.4**	1.4* 1.4*	2.0 3.1	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.29** 0.29**	1.9 1.8	1.4* 1.4*	0.57* 0.57*	1.1 2.0	5.7* 5.7*
Sacramento River at Bend	12c	9/3	11	1.3*	0.67*	3.3*	3.3**	3.3*	22	3.3*	13*	3.3*	0.67**	0.67**	3.3*	1.3*	3.7	13*
Sacramento River at Colusa	13b	5/4 9/2	1.9 9.4	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	17 23	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.29* 0.71	1.1 0.74	1.4** 1.4*	0.57* 0.57*	4.0 4.3	5.7* 5.7*
Sacramento River above Colusa Trough	14b	5/4 9/3	4.3 10	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4* 2.6	1.4* 1.4*	11 27	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	1.1 0.86	0.63 0.71	1.4* 1.4*	0.57* 0.57*	3.7 4.9	5.7* 5.7*

TABLE D-3  
TRACE METAL ANALYSES OF SURFACE WATER  
CENTRAL VALLEY REGION (NO. 5)

Station	Sta No.	Date	Constituents in parts per billion																
			Alumi- num (Al)	Beryl- lium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chro- mium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germa- nium (Ge)	Manga- nese (Mn)	Molyb- denum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)
Sacramento River at Freeport  Sacramento River near Hamilton City  Sacramento River near Keswick  Sacramento River near Rio Vista  Yuba River at Marysville	15b	5/6 9/2	2.8 4.9	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4** 1.4*	1.4* 1.4*	2.4* 6.3	20 8.6	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.25** 1.1	0.97 1.3	1.4* 1.4*	0.57* 0.57*	3.1 5.1	5.7* 5.7*
	13	5/5 9/2	2.9 7.7	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4* 1.4*	1.4** 3.1	1.4** 3.1	20 14	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.29* 0.29**	0.46 0.65	1.4* 1.4*	0.57* 0.57*	3.1 2.6	5.7* 5.7*
	12	5/5 9/1	7.7 33	0.67* 1.3*	0.33* 0.67*	1.7* 3.3*	1.7* 3.3*	1.7* 3.3*	1.7* 3.3*	23 37	6.7* 13*	0.33* 0.67*	1.7* 3.3*	0.33* 0.67*	0.56 0.93	1.7* 3.3*	0.67* 1.3*	3.1 4.1	6.7* 13*
	16	5/6 9/2	3.4 23	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4** 1.4**	1.4* 1.4*	1.4* 1.4*	25 23	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.29** 0.91	0.71 1.0	1.4* 1.4*	0.57* 0.57*	4.9 7.1	5.7* 5.7*
	21	5/5 9/4	1.4** 3.1	0.57* 0.57*	0.29* 0.29*	1.4* 1.4*	1.4** 1.4*	1.4* 1.4**	1.4* 1.4**	3.7 7.1	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	0.29** 0.49	0.40 0.37	1.4* 1.4*	0.57* 0.57*	0.37 1.3	5.7* 5.7*
LAHOTTAN REGION (NO. 6)																			
Lake Tahoe at Tahoe  Truckee River near Farad	38	5/8 9/14	1.4** 6.3	0.57* 0.57*	1.4** 0.29*	1.4* 1.4*	9.1 1.4*	1.4* 1.4*	1.4** 1.4*	1.4** 7.4	5.7* 5.7*	0.29* 0.29*	1.4* 1.4*	2.0 3.7	0.29 0.37	1.4* 1.4*	0.57* 0.57*	0.37 0.80	5.7* 5.7*
	53	5/8 9/4	31 8.5	0.57* 1.0*	0.29* 0.50*	1.4* 2.5*	1.4* 2.5*	1.4* 2.5*	1.7 2.5*	13 70	5.7* 10*	0.29* 0.50*	1.4* 2.5*	0.29** 1.6	0.29** 0.50**	1.4* 2.5*	0.57* 1.0*	0.66 1.1	5.7* 10*



TABLE D-4

## RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION (NO. 5)

Sta. No.	Stream	Near	Date	Micro-micro curies per liter			
				Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
22b	American River, Middle Fork	Auburn	5-4 9-18	0.06 ± 1.35 0.74 ± 0.96	0.24 ± 0.56 -0.18 --	1.14 ± 10.45 -0.93 --	6.02 ± 8.29 -0.28 --
22a	American River	Nimbus Dam	5-4 9-1	-0.07 ± 0.42 -0.43 ± 0.46	-0.12 ± 0.42 0.32 ± 1.36	-11.26 ± 7.57 -7.81 ± 8.41	15.55 ± 9.81 3.45 ± 9.93
22	American River	Sacramento	5-4 9-1	-0.30 ± 0.83 -0.79 ± 0.28	-0.46 ± 0.23 -0.03 ± 0.68	-0.87 ± 8.57 4.16 ± 7.94	-1.76 ± 10.59 0.90 ± 10.36
22c	American River, South Fork	Lotus	5-4 9-18	-0.18 ± 0.60 -0.78 --	-0.76 ± 0.70 0.20 ± 3.43	4.70 ± 8.26 -5.66 --	1.98 ± 11.13 8.44 ± 10.06
88c	Antelope Creek	Mouth	5-4 9-3	-1.46 ± 1.01 1.08 ± 1.40	-0.08 ± 0.59 0.33 ± 0.89	4.92 ± 12.25 2.20 ± 9.10	3.64 ± 8.13 -7.80 --
88e	Antelope Creek	Red Bluff	5-4 9-3	-3.49 ± 2.42 1.69 ± 1.59	0.46 ± 0.89 0.00 --	-11.60 ± 13.67 9.70 ± 10.12	-1.09 ± 9.00 1.78 ± 8.52
88b	Battle Creek	Cottonwood	5-7	0.02 ± 0.89	0.07 ± 0.71	6.12 ± 10.77	-6.67 ± 8.87
78	Bear River	Wheatland	5-5 9-4	0.80 ± 1.05 -0.51 ± 0.75	-0.22 ± 1.00 -1.02 ± 1.03	-1.67 ± 8.14 9.65 ± 9.28	6.19 ± 11.81 -5.46 ± 11.77
85a	Big Chico Creek	Chico	5-4 9-2	0.30 ± 1.17 -0.58 ± --	-0.01 ± 0.71 -0.15 --	18.52 ± 10.40 -8.22 --	7.81 ± 8.15 5.07 ± 9.09
80	Cache Creek	Capay	5-5 8-31	-0.31 ± 0.82 -0.26 --	0.09 ± 1.57 -0.20 --	-4.38 ± 8.62 8.72 ± 8.99	0.13 ± 11.12 8.57 ± 10.46
42	Cache Creek	Lower Lake	5-5 8-31	0.00 ± 0.63 0.28 ± 1.08	0.26 ± 1.63 0.32 ± 1.64	-11.42 ± 8.38 2.73 ± 9.59	-3.66 ± 11.33 -5.47 ± 11.56

# RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION (NO. 5)

Sta. No.	Stream	Near	Date	Micro-micro curies per liter			
				Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
79	Cache Creek, North Fork	Lower Lake	5-5 8-31	-0.04 ± 0.71 -0.56 --	-0.65 ± 0.40 -0.36 --	-0.21 ± 8.76 -9.04 --	-3.78 ± 11.05 1.32 --
16a	Calaveras River	Jenny Lind	5-4	0.00 ± 0.63	-0.13 ± 1.03	-10.54 ± 8.29	12.53 ± 10.70
12d	Clear Creek	Igo	5-7 9-4	-0.16 ± 0.71 0.16 ± 0.70	-0.24 ± 0.40 0.22 ± 0.81	10.47 ± 10.53 1.30 ± 9.40	1.91 ± 9.08 -1.14 --
41	Clear Lake	Lakeport	5-5 8-31	0.10 ± 0.81 0.08 ± 1.00	-0.72 ± 0.77 -0.33 ± 1.08	7.64 ± 9.05 -11.91 ± 9.03	6.65 ± 11.46 20.15 ± 11.99
87	Colusa Trough	Colusa	5-4 9-2	-1.22 ± 1.19 -1.88 --	0.11 ± 0.75 -0.57 --	2.75 ± 14.05 0.36 ± 10.69	13.83 ± 9.40 -0.90 --
94a	Cosumnes River	McConnell	5-4	0.75 ± 1.05	0.01 ± 0.79	0.44 ± 8.87	14.52 ± 10.20
94	Cosumnes River	Michigan Bar	5-4 9-1	0.21 ± 0.81 0.00 --	-0.15 ± 0.69 0.30 ± 0.73	14.97 ± 9.91 16.55 ± 10.46	14.03 ± 11.04 0.23 ± 8.67
12b	Cottonwood Creek	Cottonwood	5-4 9-4	0.74 ± 1.63 -0.27 ± 0.87	-0.16 ± 0.60 0.78 ± 1.08	-6.62 ± 13.58 -14.76 ± 10.66	-9.34 ± 8.81 -8.06 ± 8.66
11a	Cottonwood Creek	below N. F. Cottonwood Cr.	5-7 9-4	-0.57 ± 0.30 -0.96 --	-0.26 ± 0.60 0.04 ± 0.76	-3.28 ± 9.88 7.54 ± 9.46	2.18 ± 9.34 -7.43 --
88a	Cow Creek	Millville	5-7	0.04 ± 0.95	-1.18 ± 0.77	-2.75 ± 11.49	10.77 ± 10.57
95a	Elder Creek	Gerber	5-7	-1.11 ± 0.54	-0.24 ± 0.60	1.74 ± 10.90	-4.63 ± 8.55
13e	Elder Creek	Paskenta	5-5 9-3	-0.91 ± 0.96 -4.00 --	-0.38 ± 0.45 0.15 ± 0.73	22.35 ± 12.54 0.00 --	5.72 ± 9.07 -2.20 --



TABLE D-4

## RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION (NO. 5)

Sta. No.	Stream	Near	Date	Micro-micro curies per liter			
				Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
19b	Feather River, Middle Fork	Merrimac	5-7 9-11	0.07 ± 0.42 0.00 ± 0.58	0.58 ± 1.00 0.47 ± 1.26	1.51 ± 8.02 3.64 ± 8.59	-7.74 ± 9.57 -2.93 ± 10.74
20	Feather River	Nicolaus	5-5 9-4	-0.56 ± 0.47 -0.04 --	-0.05 ± 0.85 0.11 ± 1.51	0.65 ± 8.63 -4.60 --	-9.36 ± 10.19 2.90 ± 11.28
19a	Feather River, North Fork	Big Bar	5-7 9-10	0.00 ± 0.80 -0.16 ± 0.60	-0.59 ± 0.26 0.29 ± 1.19	0.91 ± 8.86 -5.99 ± 8.50	1.12 ± 9.42 22.02 ± 12.00
19	Feather River	Oroville	5-7 9-4	0.46 ± 0.89 0.04 ± 0.81	0.19 ± 0.99 -0.63 --	-5.40 ± 8.69 -0.75 --	191.16 ± 15.57 3.99 ± 8.74
20a	Feather River	below Shanghai Bend	5-5 9-4	-0.16 ± 0.59 0.22 --	0.08 ± 0.83 -0.34 --	-0.27 ± 8.15 2.82 --	8.55 ± 10.98 4.24 ± 9.92
19c	Feather River, South Fork	below Ponderosa Dam	9-11	0.29 ± 0.80	0.59 ± 1.45	5.05 ± 8.95	6.71 ± 10.12
17d	Indian Creek	Crescent Mills	5-7 9-16	0.30 ± 0.90 0.42 ± 0.80	0.17 ± 1.06 -0.82 ± 1.19	9.10 ± 8.62 0.13 ± 8.53	15.18 ± 11.41 -3.76 ± 11.50
107	Indian Slough	Brentwood	5-6 9-8	-0.20 ± 0.74 0.34 ± 0.61	-0.72 ± 1.14 -0.41 --	0.96 ± 9.38 2.98 ± 9.21	-6.36 ± 11.47 10.49 ± 11.75
106	Italian Slough	Mouth	9-3	0.77 ± 1.00	-0.17 --	-4.33 --	-6.05 --
99	Little Potato Slough	Terminous	5-4 9-8	1.29 ± 1.25 -0.11 ± --	0.08 ± 0.51 -0.42 --	5.23 ± 8.64 5.42 ± 8.91	-7.04 ± 9.52 2.11 ± 9.87
18	McCloud River	above Shasta Lake	5-5 9-1	0. ± 0.75 -0.38 --	0.51 ± 0.89 0.26 ± 0.89	-2.35 ± 9.48 3.55 ± 8.92	2.23 ± 8.09 -7.24 --

## CENTRAL VALLEY REGION (NO. 5)

Sta. No.	Stream	Near	Date	Micro-micro curies per liter			
				Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
23a	Mokelumne River	Lancha Plana	5-4 9-17	0.04 ± 0.41 0.30 ± 0.81	-0.80 ± 0.77 -0.89	-1.97 ± 7.90 -6.12	11.89 ± 10.93 1.73 ± 8.93
23	Mokelumne River	Woodbridge	5-4 9-1	0.13 ± 0.57 0.43 ± 0.90	1.47 ± 2.03 -0.92 ± 0.75	0.56 ± 8.10 0.39 ± 8.81	-6.91 ± 10.27 2.43 ± 10.86
104	Old River	Clifton Court Ferry	5-8 9-3	1.53 ± 1.30 0.38 ± 0.84	0.67 ± 1.89 1.56 ± 2.88	1.44 ± 9.31 3.81 ± 8.98	1.43 ± 11.79 -4.13
108	Old River	Orwood Bridge	5-6 9-8	-0.33 ± 0.82 0.27 ± 0.75	1.99 ± 1.79 0.73 ± 0.60	2.92 ± 9.76 3.64 ± 8.98	7.38 ± 11.58 4.38 ± 11.07
103	Old River	Tracy	5-8 9-3	-0.39 ± 0.31 0.43 ± 0.76	2.16 ± 3.63 3.05 ± 4.68	-1.98 ± 8.72 8.87 ± 9.27	5.35 ± 12.51 12.81 ± 12.65
88g	Paynes Creek	Red Bluff	5-4 9-3	-1.83 ± 1.27 -0.25	-0.18 ± 0.60 0.33 ± 0.89	-8.90 ± 12.35 2.96 ± 10.36	-0.33 ± 8.94 1.83 ± 8.52
17a	Pit River	Canby	5-6 9-3	-0.71 ± 0.34 -0.57	-0.05 ± 0.61 0.18 ± 0.68	14.86 ± 10.55 10.07 ± 10.56	7.09 ± 8.87 0.20 ± 8.30
18a	Pit River, South Fork	Likely	5-6 9-3	-0.06 ± 0.79 -0.59	-0.35 ± 0.45 -0.31	15.41 ± 11.60 7.77 ± 9.16	-6.23 ± 8.79 3.73 ± 8.16
17	Pit River	Montgomery Creek	5-6 9-4	-0.83 ± 0.74 -1.03	-0.01 ± 0.71 -0.07	7.77 ± 11.57 5.00 ± 9.90	5.17 ± 8.59 -2.62
81	Putah Creek	Winters	5-5 9-2	-0.39 ± 0.20 0.18	-0.46 ± 0.74 4.83 ± 0.63	-3.88 ± 8.71 0.00	-6.93 ± 11.33 -6.26
88d	Red Bank Creek	Red Bluff	5-5	-1.44 ± 0.85	-0.60 ± 0.25	3.21 ± 13.52	3.25 ± 8.53
109	Rock Slough	Knightsen	5-6 9-3	0.14 ± 0.91 -0.19	-0.17 ± 1.35 0.24 ± 1.38	10.56 ± 9.40 -0.84	-1.66 ± 10.71 4.13 ± 8.52



TABLE D-4

## RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION (NO. 5)

Sta. No.	Stream	Near	Date	Micro-micro curies per liter			
				Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
12c	Sacramento River	Bend	5-4 9-3	-0.51 ± 0.99 0.05 ± 0.98	0.32 ± 0.80 0.23 ± 0.92	16.94 ± 11.18 5.08 ± 8.65	4.32 ± 7.87 4.06 ± 8.20
87a	Sacramento River	Butte City	5-4 9-2	-0.17 ± 0.99 -0.32 --	-0.16 ± 0.60 0.07 ± 0.81	2.49 ± 13.22 5.16 ± 8.71	7.87 ± 9.27 1.28 ± 8.94
13b	Sacramento River	Colusa	5-4 9-2	-0.83 ± 0.49 0.35 ± 1.27	-0.35 ± 0.45 0.92 ± 1.13	4.23 ± 10.74 0.00 --	2.14 ± 9.00 5.50 ± 8.09
14b	Sacramento River	above Colusa Trough	5-4 9-3	-0.42 ± 0.70 -0.85 --	-0.25 ± 0.44 1.08 ± 1.03	-1.10 ± 10.28 11.97 ± 8.99	-0.20 ± 7.86 -0.42 --
11	Sacramento River	Delta	5-5 9-1	0. -- -0.79 --	0.07 ± 0.71 -0.18 --	0.96 ± 9.91 -3.45 --	3.53 ± 8.49 8.56 ± 8.80
15b	Sacramento River	Freeport	5-6 9-2	-0.24 ± 0.60 -0.48 --	-0.36 ± 0.22 -0.82 --	10.83 ± 9.14 7.03 ± 8.81	3.20 ± 10.20 6.99 ± 10.50
13	Sacramento River	Hamilton City	5-5 9-2	-0.65 ± 0.38 -0.79 --	-0.60 ± 0.25 0.07 ± 0.81	14.02 ± 11.55 1.41 ± 8.60	10.18 ± 8.87 0.70 ± 8.74
12	Sacramento River	Keswick	5-5 9-1	-0.23 ± 0.59 -0.14 --	0.26 ± 0.81 -0.04 --	10.40 ± 10.11 7.32 ± 9.87	11.94 ± 8.89 -1.25 --
16	Sacramento River	Rio Vista	5-6 9-2	0.39 ± 1.38 0.00 --	-0.18 ± 0.59 0.00 --	0.25 ± 9.11 -2.93 --	-9.08 ± 9.64 3.60 ± 10.23
14a	Sacramento Slough	Knights Landing	5-4 9-3	-0.51 ± 1.45 0.45 ± 1.09	0.14 ± 0.70 0.50 --	3.65 ± 11.67 3.15 ± 7.80	-3.20 ± 9.23 2.21 ± 9.17

TABLE D-4

## RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION (NO. 5)

Sta. No.	Stream	Near	Date	Micro-micro curies per liter			
				Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
28	San Joaquin River	Antioch	5-6 9-2	-0.39 ± 0.20 1.54 ± 1.34	-1.03 ± 2.38 -3.00 ± --	-1.82 ± 9.15 1.95 ± 9.31	15.75 ± 13.81 2.16 ± 13.06
102	San Joaquin River	Mossdale Bridge	5-8 9-3	1.23 ± 1.75 0.39 ± 0.85	3.26 ± 5.24 4.59 ± 3.21	-0.92 ± 9.28 5.08 ± 9.13	6.23 ± 12.19 0.43 ± 9.75
13c	Stony Creek	below Black Butte Dam	5-5 9-3	-0.10 ± 1.36 -1.18 --	-0.45 ± 0.21 1.93 ± 1.41	16.62 ± 12.79 11.47 ± 10.63	-2.67 ± 8.86 -1.69 --
13f	Stony Creek	Fruto	9-1	-1.59 --	0.71 ± 1.15	-5.92 --	5.25 ± 8.00
95b	Thomes Creek	Mouth	5-7	-0.20 ± 1.13	-0.33 ± 0.45	5.18 ± 13.12	2.52 ± 8.58
13d	Thomes Creek	Paskenta	5-5 9-3	-0.19 ± 0.95 0.25 ± 1.66	0.24 ± 0.81 -1.00 --	7.81 ± 11.16 -3.25 --	-3.94 ± 8.70 -2.68 --
21	Yuba River	Marysville	5-5 9-4	-0.38 ± 0.45 1.75 ± 1.36	-0.46 ± 0.99 0.00 --	2.76 ± 8.33 -1.09 --	-3.49 ± 9.66 -0.87 --
21a	Yuba River	Smartville	5-5 9-10	0.52 ± 0.98 -0.74 ± 0.27	0.08 ± 0.82 0.50 ± 1.02	5.98 ± 9.07 -1.99 ± 7.60	8.83 ± 10.89 -10.21 ± 10.40



TABLE D-4

## RADIOASSAY OF SURFACE WATERS

LAHONTIAN REGION (NO. 6)

Sta. No.	Stream	Near	Date	Micro-micro curies per liter			
				Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
115	Carson River, East Fork	Markleeville	5-7 9-15	0.39 ± 1.11 1.04 ± 1.09	0.10 ± 1.48 -0.61 --	8.33 ± -4.55	10.70 ± 11.02 6.55 ± 8.93
115a	Carson River, West Fork	Woodfords	5-7 9-15	-0.04 ± 0.71 2.23 ± 1.41	0.05 ± 0.47 0.31 ± 0.98	8.68 ± 3.94 ±	-0.23 ± 9.51 8.44 ± 8.90
38	Lake Tahoe	Tahoe City	5-8 9-14	-0.16 ± 0.59 -0.48 --	-0.97 ± 0.45 0.47 ± 0.83	-2.16 ± 0.55 ±	2.59 ± 10.89 8.09 ± 9.62
17b	Susan River	Susanville	5-6 9-3	0.05 ± 0.93 0.81 ± 1.18	-0.01 ± 0.71 2.23 ± 1.41	-2.93 ± 0.40 ±	9.01 ± 8.72 5.54 ± 8.76
53	Truckee River	Farad	5-8 9-14	0.21 ± 0.81 -0.37 --	-0.11 ± 0.88 -0.04 --	4.48 ± -6.12	14.00 ± 10.34 -1.69 --
52	Truckee River	Truckee	5-8 9-14	0.39 ± 1.11 0.33 ± 0.89	-0.34 ± 0.96 10.46 ± 3.01	-0.07 ± 2.29 ±	16.08 ± 10.71 0.00 --
116a	Walker River, East	Bridgeport	5-7 9-15	0.68 ± 1.35 -0.58 ± 0.63	0.97 ± 1.44 0.62 ± 1.40	2.92 ± 0.28 ±	0.82 ± 11.46 3.24 ± 11.93
116	Walker River, West	Coleville	5-7 9-15	0.80 ± 1.05 0.37 ± 0.75	-1.06 ± 0.49 1.91 ± 1.55	0.76 ± -6.72	-3.59 ± 10.95 2.01 ± 9.11

TABLE D-5  
ANALYSES OF ORGANIC CHEMICALS IN SURFACE WATER<sup>a</sup>  
(Recovered by Carbon Filter Technique)

Results in parts per billion (ppb)

Station	Date Sampled	Group Separation of Chloroform Extractables												Group Separation of Neutrals																			
		Total Extract		Chloroform Extractables		Alcohol Extractables		Ether Insolubles		Water Solubles		Amines		Strong Acids		Weak Acids		Neutrals (see breakdown)		Total		Loss		Aliphatics		Aromatics		Oxygenates		Total		Loss	
		ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%		
American River at Sacramento Cache Creek at Highway 53	8/22/64	271		94	34.8	177	65.2	7	7.6	36	38.1	1	1.4	8	8.2	10	10.2	19	20.2	81	85.7	13	14.3	3	18.0	1	5.4	15	79.2	19	102.6	0	
	6/5/64	389		146	37.6	243	62.4	2	1.0	49	33.4	3	2.1	13	9.0	16	10.8	48	32.6	131	88.9	15	11.1	5	9.7	2	4.0	39	81.5	46	95.2	2	4.8
	9/24/64	707		255	36.1	452	63.9	8	3.0	92	36.1	5	2.0	21	8.2	29	11.1	71	27.9	226	88.3	29	11.7	12	16.2	4	5.4	49	69.3	65	90.9	6	9.1
Feather River above Verona	8/28/64	263		94	35.8	169	64.2	4	4.2	35	37.3	2	1.7	8	8.0	11	12.1	27	28.8	87	92.1	7	7.9	4	13.9	1	5.4	22	81.3	27	100.6	0	
Putah Creek at Diversion to Putah South Canal	6/1/64	201		55	27.2	146	72.8	1	2.1	19	35.4	1	2.3	5	9.3	6	10.2	14	25.4	46	84.7	9	15.3	2	17.7	1	6.7	10	74.0	13	98.4	1	1.6
	10/3/64	282		36	12.9	246	87.1	0	0.9	11	30.2	2	6.0	2	4.3	4	10.4	13	35.5	32	87.3	4	12.7			0		10					
Reclamation District 1000 Drain at Second Bannon Slough	9/23/64	464		132	28.4	332	71.6	4	3.3	51	38.8	6	4.4	12	9.1	16	11.9	35	26.6	124	94.1	8	5.9	8	22.2	1	2.6	22	63.7	31	88.5	4	11.5
Sacramento River above Sacramento Slough	10/3/63	134		51	38.1	83	61.9	4	7.4	15	29.6	1	1.3	5	10.5	4	7.0	8	15.1	37	70.9	14	29.1	1	7.2	0	2.9	7	84.0	8	94.1	0	5.9
	7/27/64	165		41	24.8	124	75.2	1	2.3	14	34.0	1	1.8	4	9.5	5	12.6	10	25.4	35	85.6	6	14.4	1	11.4	1	8.2	9	83.5	11	103.1		
	10/30/64	167		48	28.6	119	71.4	1	1.8	16	32.8	3	6.0	5	9.7	6	13.6	16	34.6	47	98.5	1	1.5	3	19.1	1	5.4	10	61.9	14	86.4	2	13.6
San Joaquin River at Mossdale Bridge	10/4/63	179		68	37.8	111	62.2	3	4.0	19	28.4	1	1.3	7	10.1	6	8.5	14	21.2	50	73.5	18	26.5	1	5.1	1	3.8	12	85.9	14	94.8	0	5.2
	7/24/64	336		117	34.8	219	65.2	3	2.9	35	29.9	3	2.3	10	8.8	15	12.9	31	26.5	97	83.8	20	15.7	2	6.3	2	5.4	29	93.7	33	105.4		
	10/29/64	272		71	26.2	201	73.8	2	2.7	23	31.9	2	2.5	5	7.1	7	10.2	22	31.2	61	85.6	10	14.4	3	14.5	1	5.7	15	87.3	19	87.5	3	12.5

<sup>a</sup> Analyses made by California Department of Public Health, Sanitation and Radiation Laboratory.



TABLE D-6

DESCRIPTION OF SALINITY  
OBSERVATION STATIONS

STATION	MAP REFERENCE NUMBER (a)	MILES FROM GOLDEN GATE (b)	TIME INTERVAL		LOCATION
			Hours	Min.	
					SUISUN BAY
Crockett		29.5	3	30	West end of Carquinez Strait, south shore, 0.2 mile east of Carquinez Bridge on wharf of C and H Sugar Refinery Corporation.
Martinez		34.9	3	50	Sampled from Shell Oil Company dock, about 0.6 mile downstream from Southern Pacific Company railroad bridge.
Port Chicago		41.1	4	20	South shore of Suisun Bay at U. S. Naval ammunition loading wharf below Port Chicago.
Middle Point		44.6			South shore of Suisun Bay, about 0.5 mile upstream from Middle Point at Allied Chemical Corporation yard.
Spoonbill Creek	1	49.9	5	05	At Sacramento Northern Railroad crossing.
Pittsburg	2	50.2	5	00	East end of Suisun Bay, south shore, at Pittsburg Yacht Harbor.
					SACRAMENTO RIVER DELTA
Collinsville	3	53.0	5	25	Sacramento River, north bank at junction with San Joaquin River.
Ematon	4	59.5	5	45	Sacramento River, south bank, 5.9 miles downstream from Rio Vista.
Threemile Slough Bridge	5	62.3	5	55	At junction of slough and Sacramento River.
Rio Vista Bridge	6	66.0	6	05	At highway bridge near northerly limits of Rio Vista.
Isleton Bridge	7	72.0	6	30	Sacramento River, one mile upstream from Isleton.
					SAN JOAQUIN RIVER DELTA
Antioch	8	54.4	5	55	San Joaquin River at City Water Works pumping plant.
Antioch Bridge	9	57.3	6	10	South shore San Joaquin River at Antioch Bridge.
Jersey Island	10	61.3	6	20	San Joaquin River, left bank approximately 1.5 miles below mouth of False River.
Threemile Slough	11	63.5	6	30	Threemile slough, west bank, of junction of slough with the San Joaquin River.
Webb Ferry	12	68.0	6	40	False River at junction with Fisherman's Cut.
San Andreas Landing	13	70.3	6	55	San Joaquin River, right bank, one mile below the mouth of the Mokelumne River.
Dutch Slough	14	73.0	7	05	At Bethel Island Bridge.
Mossdale Bridge	15	108.5	10	50	San Joaquin River at U. S. 50 Highway crossing about three miles southwest of Lathrop.

- a Mileage measured to station along main channel. For stations off the main channel, the mileage shown is the same distance along the main channel to a point whereon the time of the occurrence of the tidal phase is the same as that of the observation station.
- b Time interval between high tide at Golden Gate and time for taking samples at station.



**LEGEND**

- (2)— SALINITY OBSERVATION STATIONS
- LIMIT OF MAXIMUM SEASONAL ENCROACHMENT OF SALINITY OF 1000 PARTS OF CHLORIDE PER MILLION PARTS OF WATER

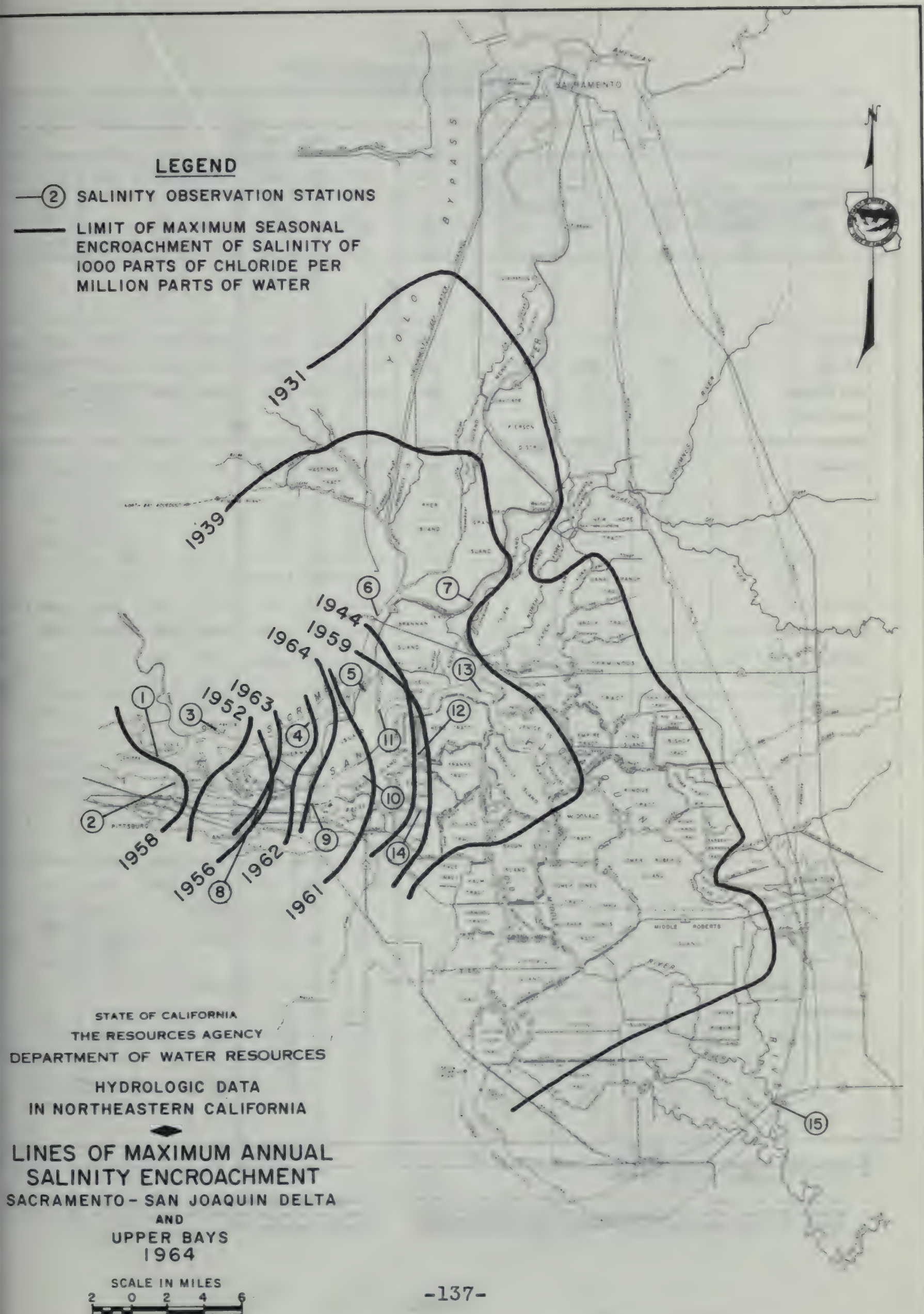




TABLE D-7

MAXIMUM OBSERVED SALINITY AT BAY AND DELTA STATIONS  
FOR SELECTED YEARS  
In parts of chloride per million parts of water\*

Station (a)	Water Year											
	1931	1939	1944 <sup>b</sup>	1952	1955	1956 <sup>c</sup>	1958	1959	1961	1962	1963	1964
Sacramento-San Joaquin System Unimpaired Runoff in percent of average (d)	34	49	62	168	63	175	166	66	61			
						Suisun Bay						
Crockett				13200	16600	15300	11900	15000	19900	13900	13100	14600
Martinez	16900	16400		8900	11900	11900	7150	10200	11600	12700	11500	12900
Port Chicago				6900	12500	9750	5830	15640	11900	9370	9200	11200
Middle Point												10100
Spoonbill Creek**	13900	11800	7300	2800	6400	4040	930	6270	5900	3540	2940	2980
Pittsburg				1200	7800	3440	1200	5110	3920	3980	1350	3280
						Sacramento River Delta						
Collinsville	12600	10400	4700	783	3880	2280	550	5430	4300	2430	1980	3730
Emmaton					1080	158	29	2600	2070	841	382	1470
Threemile Slough Bridge	8600	5900	1610	175	635	56	18	1480	633	232	134	459
Rio Vista Bridge	7400	4050	550	175	158	21	17	219	69	52	38	690
Isleton Bridge	6350	2500	50	125	23	17	14	20	18	18	14	20
						San Joaquin River Delta						
Antioch	12400	9200	4000	354	3320	1270	184	3410	2930	1770	1040	2500
Antioch Bridge					2360	160	122	2570	1360	479	317	892
Jersey Island					1130	152	52	1220		84	136	863
Threemile Slough					428	82	45	1900	489	130	56	262
Webb Ferry					331	79					98	315
San Andreas Landing					98	66	46	248	345	57	41	72
Dutch Slough	5100	2250	690	88	454	107	110	1044	825	192	98	434
Mossdale Bridge	120	160	130	122	224	206	219	261	346	308	196	315

\* Ocean water contains approximately 18,200 parts per million.

\*\* Station discontinued December 10, 1963.

a For location see Plate.

b Releases of stored water from Shasta Lake commenced in 1944.

c Releases of stored water from Folsom Reservoir commenced in 1956.

d Average taken as mean annual unimpaired flow at foothill stations of major tributaries for 50-year period October, 1900 through September, 1957.

TABLE D-8

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS\*  
In parts of chloride per million parts of water

Station	October 1963							
	2	6	10	14	18	22	26	30
	Suisun Bay							
Crockett	11200			10400	9800	9220	8040	10400
Martinez	5880	8820	a7160	7740	7840	a6280	6860	7350
Port Chicago	4510	1960	6180	3950	2740	3380	2940	4020
Spoonbill Creek	a657	480	a569	407			220	419
Pittsburg	bd233		a235	169		a142	d71	116
	Sacramento River Delta							
Collinsville	a230	230	a76	82	a41	a25	a20	87
Emmaton	a31	28	a35	28	31	24	bd19	bd22
Threemile Slough Br.	a12	a13	a12	12	14	11	10	14
Rio Vista Bridge	11	10	b8	9	8	9	11	9
Isleton Bridge	7	6	b6	7	7	5	6	4
	San Joaquin River Delta							
Antioch	a110	109	a74	84	a58	a41	35	44
Antioch Bridge	a28	25	a28	20	22	28	22	22
Jersey Island			a18	17	14	14	19	
Threemile Slough	a14	16		13	14	a16	19	21
Webb Ferry	a17		a14	16	14	18	21	
San Andreas Ldg.	a13	12	a14	16	17	a22	23	20
Dutch Slough	28	a26	a27	26	a24	a29	27	29
	November 1963							
Station	2	6	10	14	18	22	26	30
	Suisun Bay							
Crockett	11300		6760	10000	7450	4510	5980	7600
Martinez	10700	a7840	ae4410	7840	6220	a4120	6470	6130
Port Chicago	5490		2160		1810	470	1470	1950
Spoonbill Creek	485	2980			108			26
Pittsburg			bd88		45	a31		
	Sacramento River Delta							
Collinsville	336	167	36	27	22	15		
Emmaton	31	a27	bd15	14	11	a10	10	9
Threemile Slough Br.	14	a18	9	10	9	a9	6	12
Rio Vista Bridge	15	8	10	14	4	8	6	11
Isleton Bridge	6	6	7	5	6	9	7	8
	San Joaquin River Delta							
Antioch	118	a120	47	42	25	25	27	24
Antioch Bridge	a25	30	30	38	33	a30	35	37
Jersey Island	26							
Threemile Slough	22	a19		19	19			24
Webb Ferry	a22	a20	20		22	a23	33	26
San Andreas Ldg.	20	d20	a24	20	20	31	26	26
Dutch Slough		a32	36	38	42	a48	53	60
Mossdale Bridge		a74		ad75	ad65	a52		a53

\* Samples taken at four-day intervals approximately one and one-half hours after high tide.

a Taken after low high tide

b Taken on following day.

c Taken two days later.

d Taken over one hour off scheduled time.

e Taken on preceding day.

f Taken two days earlier.



TABLE D-8

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS\*  
In parts of chloride per million parts of water

Station	December 1963							
	2	6	10	14	18	22	26	30
Crockett Martinez Port Chicago Spoonbill Creek Pittsburg	Suisun Bay							
	6860	5490	7450	7400	7500	6180	ae7200	8920
	3870	4260	4070	2840	6810	4750		5930
	45	529	3240	2720		1790	4510	3530
		31						
			28			41		59
Collinsville Emmerton Threemile Slough Br. Rio Vista Bridge Isleton Bridge	Sacramento River Delta							
	11		14	13	a12		19	37
	10	13	13	13	13	12	15	14
	10	9	14	12	12	8		abd17
	8	8	8	7		9	8	8
	6	6	8	6	6	7	7	6
Antioch Antioch Bridge Jersey Island Threemile Slough Webb Ferry San Andreas Ldg. Dutch Slough Mossdale Bridge	San Joaquin River Delta							
	28	32		34	34	38	36	55
	42	38	41	46	a49	45	45	45
						34	30	36
		a28		25	a27		23	26
	28			31	a31		32	31
	26	28	24	31	29	30	24	d31
	a67	66	61	a64	a68	63	63	a62
	a55		a58		a65	a61		a68
Station	January 1964							
	2	6	10	14	18	22	26	30
Crockett Martinez Port Chicago Middle Point Pittsburg	Suisun Bay							
	4800	7650	8480	7940	6180	3430	5200	4610
	3280	3280	3870			2060	6030	1470
	1400	2350	3240	3680	3040	1520	451	abd64
	72	56	52	bd74		94	38	58
								30
Collinsville Emmerton Threemile Slough Br. Rio Vista Bridge Isleton Bridge	Sacramento River Delta							
	a21	34	23	113	30	28	14	15
	abd15	15	25	bd20	a20	16	bd16	
	a13	14	15	16	15	12	11	15
	7	8	8	8	9	8	9	15
	6	7	7	9	7		8	9
Antioch Antioch Bridge Jersey Island Threemile Slough Webb Ferry San Andreas Ldg. Dutch Slough Mossdale Bridge	San Joaquin River Delta							
	a46	41	40	51	51	45	34	37
	48	48	46	46	48	46	51	57
	a34	41	37	a38	36	39	43	a40
	a27	31	37		a36	38	27	
	a32	d34		35		38	34	36
	34		38	37	a39		34	a34
	a59	63	61	a60	a62	67	74	a79
	a69	70	a72	ad101			a87	a99

\* Samples taken at four-day intervals approximately one and one-half hours after high tide.

a Taken after low high tide.

c Taken two days later.

e Taken on preceding day.

b Taken on following day.

d Taken over one hour off scheduled time.

f Taken two days earlier.

TABLE D-8

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS\*  
In parts of chloride per million parts of water

Station	February 1964							
	2	6	10	14	18	22	26	
	Suisun Bay							
Crockett	3870	6320	7400	7200	6080	8040	8820	
Martinez		4460	d2110	6620	4850			
Port Chicago	52	868	3580	2010	882	bd3190	2200	
Middle Point	34	515	2940	1720	a181	3580	2550	
Pittsburg	44	41		45	45	46	bd68	
	Sacramento River Delta							
Collinsville	16	24	19	20	18	29	19	
Ematon	d14	15	19	22	ad17	23	20	
Threemile Slough Br.	13	11	17		19	cd15	14	
Rio Vista Bridge	12	9	9	14	13	9	11	
Isleton Bridge	6	6	6	8	7	6	6	
	San Joaquin River Delta							
Antioch	43	42	36	43	43	37	46	
Antioch Bridge	65	63	53	52	a56	48	41	
Jersey Island	a38	41	43	abd45	bd35	37	33	
Threemile Slough		20	31	31		26	21	
Webb Ferry		39	39	37	28		30	
San Andreas Idg.	34	18	34	29	22	23	19	
Dutch Slough	83	70	76	a68	66	60	54	
Mossdale Bridge	97	99	126	d137	158	a179	d198	
	March 1964							
Station	2	6	10	14	18	22	26	30
	Suisun Bay							
Crockett	8630	7650	9610	9800	10800	10000	9220	10100
Martinez	5100	6370	7450	7740	8140	ae7260	6370	a6270
Port Chicago	2110	2400	4460	3630	5240	6180	2740	3920
Middle Point	1620	1370	3870	2790	4900			1720
Pittsburg	a77		bd111		a174	bd343	bd216	abd189
	Sacramento River Delta							
Collinsville	42	24	75		372	274	176	198
Ematon	20	24	25	29	50	bd37	33	a48
Threemile Slough Br.	14	13	13	14	14	17	17	14
Rio Vista Bridge	9	9	10	11	13	10	11	11
Isleton Bridge	8	8	7	9	10	6	7	8
	San Joaquin River Delta							
Antioch	50	45	49	85	131	228	113	110
Antioch Bridge	50	57	43	43	37	41	39	a36
Jersey Island	29	bd34	26	25	41	34	cd24	31
Threemile Slough	19	19					8	13
Webb Ferry		22	23	a19	25	22	17	a17
San Andreas Idg.	11	11	14	12	12	12	12	12
Dutch Slough	38	29	39	a41	33	27	33	29
Mossdale Bridge	228	250	a220		162	a218		d191

\* Samples taken at four-day intervals approximately one and one-half hours after high high tide.

a Taken after low high tide.

c Taken two days later.

e Taken on preceding day.

b Taken on following day.

d Taken over one hour off scheduled time.

f Taken two days earlier.



TABLE D-8

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS\*  
In parts of chloride per million parts of water

Station	April 1964							
	2	6	10	14	18	22	26	30
	Suisun Bay							
Crockett	9410	7840	10800	8430	10300	10700	11400	11600
Martinez	7650	5780	8240	6860	10200	9020	9410	9410
Port Chicago	3820	2500	a3770	6080	7200	bd6270	6570	6760
Middle Point	2990	1720	3480	5640		4800	5340	d5830
Pittsburg	abd74	152	a122	a255	618	a622		a672
	Sacramento River Delta							
Collinsville	179	34	a39	a113	613	a672	a706	1410
Emmaton	38	12	a22	37	96	a122	a78	341
Threemile Slough Br.	14	9	a10	13	27	a24	28	44
Rio Vista Bridge	9	8	8	9	12	8	14	14
Isleton Bridge	a7	7	6	6	6	6	8	7
	San Joaquin River Delta							
Antioch	d43	61	a49	110	314	a316	a201	559
Antioch Bridge	37	34	a34	a34	37	a47	a61	81
Jersey Island	27	24	a28	34	68	a53	a40	bdg32
Threemile Slough	14	14	a13	a13	20			
Webb Ferry	16	15	a15	17	16	a22	29	
San Andreas Idg.	11	6	a9	a12	12	a12	a10	
Dutch Slough	22	26	a25	24	24	a26	32	35
Mossdale Bridge	d176	203	230	d216	bd235	203	220	
	May 1964							
Station	2	6	10	14	18	22	26	30
	Suisun Bay							
Crockett	10900	a10400	11800	12600	11000	11600	10700	
Martinez	9100	9300	9610	9900	a8430	9020	10200	a7840
Port Chicago			6370	ed7990	abd4560	5540	6760	5200
Middle Point		5050	5740	6670		a2110	5440	3920
Pittsburg	1040	a720	a470	a529	a564	a333	a397	
	Sacramento River Delta							
Collinsville	1120	a539	a539	1540	a470	a211	a326	
Emmaton		a55	a55	152	a111	a34	a50	bd122
Threemile Slough Br.	45	a19	a18	34	a22	a16	30	26
Rio Vista Bridge	10	9	a12	19	b13	11	11	12
Isleton Bridge	9	10	11	10	b9	8	8	8
	San Joaquin River Delta							
Antioch		a265	a208	397	a260	a142	a126	210
Antioch Bridge	104	a86	a63	d89	d68	a52	a44	61
Jersey Island	102	a53		92	a53		33	
Threemile Slough			d17	ad16		a14	a14	
Webb Ferry	44		a25	36	a28	a20	25	26
San Andreas Idg.	12	a9	a12	12	a10	a11	a11	12
Dutch Slough	38	a44	a38	34	a33	a31	28	26
Mossdale Bridge		ad191			a240	220		

- \* Samples taken at four-day intervals approximately one and one-half hours after high tide.  
a Taken after low high tide. b Taken on following day.  
c Taken two days later. d Taken over one hour off scheduled time.  
e Taken on preceding day. f Taken two days earlier.  
# Taken at low low tide.

TABLE D-8

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS\*  
In parts of chloride per million parts of water

Station	June 1964							
	2	6	10	14	18	22	26	30
Crockett Martinez Port Chicago Middle Point Pittsburg	Suisun Bay							
		12000	11800		e11600	10900	13400	11200
	8490	10400	10400		e7690	9330	ad9420	10300
	b3240	bd170	7790	ed6370	e340	7600	9120	
		5460	3530	5690	2400	3940		5480
Collinsville Emmaton Threemile Slough Br. Rio Vista Bridge Isleton Bridge	a356	a393	abd853	abd774	a510	a577	d2280	
	Sacramento River Delta							
	a333	a394	a755	1050	a404	a510	a1560	1840
	a129	a75	a59	161	abd50			463
		a24	47	42	a31	a40	a25	75
Antioch Antioch Bridge Jersey Island Threemile Slough Webb Ferry San Andreas Landing Dutch Slough Mossdale Bridge	b14	13	17	13	13	22	24	20
	a10	9	9	a9	10	9	12	3
	San Joaquin River Delta							
	a192	a174	a233	567	a231	abd262	1400	991
	a65	a51	a58	36	a65	a96	ad322	a252
Collinsville Emmaton Threemile Slough Br. Rio Vista Bridge Isleton Bridge	a41	ad45	a38		a35	a41	a98	175
		a17	a17	28	a22	a20		
	a14	a21	ad24	19	a34			39
	9	a12	12	11	a12	a13	15	15
	a28	a31	32	34	a34	a38	45	57
Antioch Antioch Bridge Jersey Island Threemile Slough Webb Ferry San Andreas Landing Dutch Slough Mossdale Bridge	a198	bd220	a152	d162	180			
	July 1964							
Crockett Martinez Port Chicago Middle Point Pittsburg	Suisun Bay							
	12300	a12000	13500	13200	e13800	14000	14600	13800
	a8670	10300	12200	a11700		a9250		
	7400	8020	9810	8060	e9380	9980	10200	9250
	5350	8560	8480	7040	8620	8520	9000	8170
Collinsville Emmaton Threemile Slough Br. Rio Vista Bridge Isleton Bridge	abd1400			1650	a1780		a2220	2340
	Sacramento River Delta							
	a1160	a1500		a2750	a1850	a2360		a2890
	a396	a252	408	a1060	a540	a515	a679	a1030
	abd70	a108	a184	a280	a165	a209	a308	a191
Antioch Antioch Bridge Jersey Island Threemile Slough Webb Ferry San Andreas Landing Dutch Slough Mossdale Bridge	b24	37	16	66	65	57	99	16
	b10	11	13	16	17	7	12	9
	San Joaquin River Delta							
	710	abd588	914	a1490	a1080	a1080	2500	1910
	a262	a256	a444	559	a538	a612	892	a677
Collinsville Emmaton Threemile Slough Br. Rio Vista Bridge Isleton Bridge	a136	a134	a176	a469			a444	ad574
			a166	a177	a198	a167	a191	a247
	a78		225	a178	ad215	a234		a279
	a11	a15	35	a41	a34	a35	46	a36
	a58	a73	119	a160	a172	a210	324	a371
Antioch Antioch Bridge Jersey Island Threemile Slough Webb Ferry San Andreas Landing Dutch Slough Mossdale Bridge	a246	ad252	239	a273		266	a279	adb272

\* Samples taken at four-day intervals approximately one and one-half hours after high high tide.

a Taken after low high tide.

b Taken on following day.

c Taken two days later.

d Taken over one hour off scheduled time.

e Taken on preceding day.

f Taken two days earlier.



TABLE D-8

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS\*  
In parts of chloride per million parts of water

Station	August 1964							
	2	6	10	14	18	22	26	30
Crockett Martinez Port Chicago Middle Point Pittsburg	Suisun Bay							
	e14100	14100		a14000	e14200		13200	12700
		12900	9960	a10100	a10200	12200	11400	a9820
	e9620	a7710	9580	10600	10000	ed10700		11200
		a7630	8900	8750	6540	9410	7670	10100
	a2270		3280	a2570			bd2160	ad1960
Collinsville Emmaton Threemile Slough Br. Rio Vista Bridge Isleton Bridge	Sacramento River Delta							
	a2250	a2570	3730	a2410		a2550		
	a500	a765	1470	a803	a510	a946	1030	985
	a202	a269	459	a229	a389	a343	222	a155
	102	161	200	690	63	123	43	65
	12	17	8	b20	8	10	10	b10
Antioch Antioch Bridge Jersey Island Threemile Slough Webb Ferry San Andreas Landing Dutch Slough Mossdale Bridge	San Joaquin River Delta							
	a1230	a1380	2380		a1360	a1470	1180	a1420
	692	a729	875	a642	a715	892	abd539	a402
	a310	a400	863			a417	a446	
		a206	a210	a262	a228	a216	202	
				a315	a295	a309	83	
	a37	a53	47	a61	a72	47	47	a32
	321	ad283	d336	ad325	a303	434	370	a291
	317	270	318	bd277				
Station	September 1964							
	2	6	10	14	18	22	26	30
Crockett Martinez Port Chicago Middle Point Pittsburg	Suisun Bay							
	e11900	13000	10800	9840	11600	11400	12700	e9990
	a6130	10700	9260	a6180	a8780	a7640	a7380	e8600
	8440	9050	6130	4390	6910	5890	7560	e6120
	6300	8100	5090	4580	d3080	4230	6290	
	abd1290		a830	a684	a425		a687	a412
Collinsville Emmaton Threemile Slough Br. Rio Vista Bridge Isleton Bridge	Sacramento River Delta							
		a1570	1040	a334	a392	a340	a697	
	a256	a169	a115	a43	a48	34	a117	a36
	a135	91	a62		a30	a24	a29	a20
	26	10	18	b11	12	21	11	8
	9	9	11	b11	11	10	7	5
Antioch Antioch Bridge Jersey Island Threemile Slough Webb Ferry San Andreas Landing Dutch Slough Mossdale Bridge	San Joaquin River Delta							
	a809	1310	a422	a206	a213	a288	a306	a191
	a367	318	a239	bd140	a117	a69	87	a65
	a194	a172	a133	a74		a52	a77	
	a99	a66	40	ad55	a26	a26	a28	a21
	a35	28	a24	a21	a14	17	a17	a12
	a252	a220	a151	a116	a94	73	a57	a52
			bd213			187	ad138	

- \* Samples taken at four-day intervals approximately one and one-half hours after high high tide.  
 a Taken after low high tide.      b Taken on following day.  
 c Taken two days later.      d Taken over one hour off scheduled time.  
 e Taken on preceding day.      f Taken two days earlier.

Appendix E  
GROUND WATER QUALITY





## INTRODUCTION

Data presented in this appendix are measured values of selected quality characteristics of ground waters in Northeastern California. The program under which this information was obtained consisted of the following:

- A. Selection of locations to be sampled.
- B. Collection of samples by Department personnel or cooperators.
- C. Analysis of samples by an assigned laboratory.
- D. Examination of results to note trends or significant changes.
- E. Publication of data.

The program was performed in cooperation with other state, local, and federal agencies.

Field sampling was performed in accordance with accepted engineering practice. Comments on local conditions were noted in field books, which are on file in the Department's District offices.

Laboratory analysis of ground water samples was performed, in the Department's Chemical Laboratory at Bryte and by contract with the U. S. Geological Survey laboratory in Sacramento, in accordance with procedures outlined in "Standard Methods for the Examination of Water and Waste Water", Eleventh Edition. Heavy metals determinations were made by "wet" analysis at the Bryte laboratory. Radioassays were conducted by the California Department of Public Health in Berkeley in a manner identical to that outlined on page 8

### Mineral Analyses

Table E-1, "Mineral Analyses of Ground Water", was prepared for reproduction by automated procedures in the Department's Engineering Computations Branch. Expression of results varies slightly from that used in previous reports. An item-by-item explanation of the table follows:



State Well Number. The state well numbering system used in this report is based on township, range, and section subdivision of the Public Land Survey. It is the system used in all ground water investigations and for numbering all wells for which data are published or filed by the Department of Water Resources. In this report the number of a well is referred to as the State Well Number. Under the system, each section is divided into 40-acre tracts lettered as follows:

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

Note that I and O are omitted in the grid. Wells are numbered within each 40-acre tract according to the chronological sequence in which they have been assigned State Well Numbers. Thus, a well which has the number 10N/7E-13K2M would lie in Township 10 North, Range 7 East, Section 13, Mount Diablo Base and Meridian and would be further designated as the second well assigned a State Well Number in tract K.

Date and Time Sampled. Appearing immediately below the State Well Number is the date on which the sample was collected. In some instances the time has been noted also.

Agency Collecting Sample. This four digit number is a program code designation. The first digit denotes the type of well numbering system and the last three digits specify an agency. In this appendix, 5050 is used for all samples to show that the State Well Numbering System (5) is used and that the Department of Water Resources (050) provided the data.

Temperature. The temperature of the water was recorded only when the sample was taken directly from an operating pump. If it was necessary to

sample from a pressure tank, or if some other reason prevented a "fresh" sample, the temperature was not recorded.

Specific Conductance and pH were determined in the laboratory.

Mineral Constituents were determined in the laboratory. Results in milligrams per liter were transmitted to the electronic data processing center, where equivalents per million and percent reactance value were computed automatically.

Total Dissolved Solids. In some cases two values are reported. The upper number represents a summation of constituents; the lower is the result of a gravimetric analysis.

Total Hardness is computed automatically from the values for calcium and magnesium concentrations.

Basin and sub-basin names and code numbers are shown on the tabulation sheets.

#### Acknowledgements

The extensive coverage of the Ground Water Quality Data Program in Northeastern California is made possible through the cooperation of local agencies. The Department wishes to express its appreciation for the valuable assistance and cooperation received from the following county agencies.

Butte County Farm Advisor  
Colusa County Farm Advisor  
Glenn County Farm Advisor  
Placer County Health Department  
Sacramento County Farm Advisor  
Shasta County Department of Water Resources  
Sutter County Farm Advisor  
Tehama County Farm Advisor  
Yolo County Farm Advisor  
Yuba County Farm Advisor



## INDEX OF MONITORED AREAS

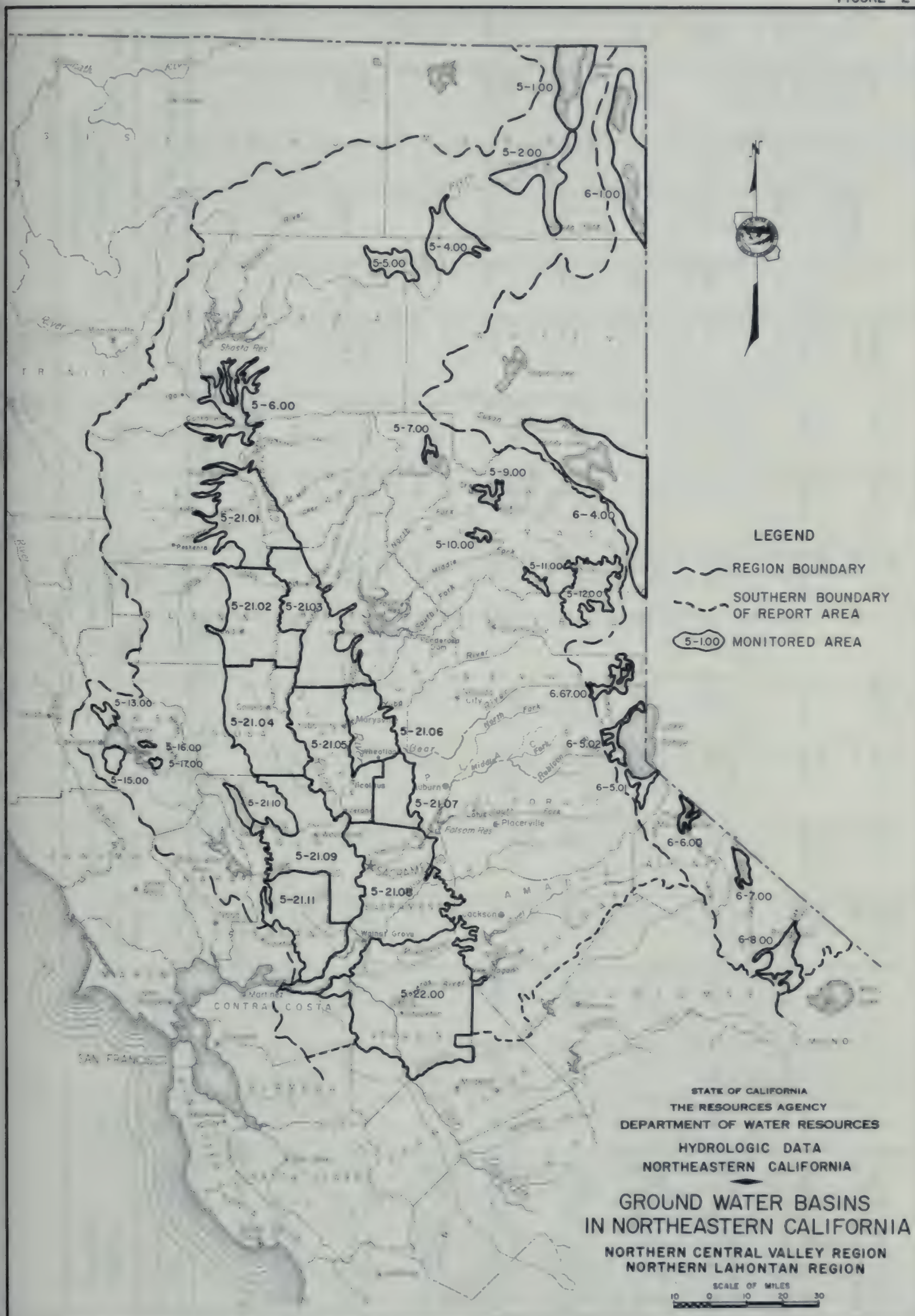
### CENTRAL VALLEY REGION (NO. 5)

5-1.00	GOOSE LAKE VALLEY
5-2.00	ALTURAS BASIN
5-4.00	BIG VALLEY
5-5.00	FALL RIVER VALLEY
5-6.00	REDDING BASIN
5-7.00	LAKE ALMANOR VALLEY
5-9.00	INDIAN VALLEY
5-10.00	AMERICAN VALLEY
5-11.00	MOHAWK VALLEY
5-12.00	SIERRA VALLEY
5-13.00	UPPER LAKE VALLEY
5-15.00	KELSEYVILLE VALLEY
5-16.00	HIGH VALLEY
5-17.00	BURNS VALLEY
5-21.00	SACRAMENTO VALLEY
5-21.01	TEHAMA COUNTY
5-21.02	GLENN COUNTY
5-21.03	BUTTE COUNTY
5-21.04	COLUSA COUNTY
5-21.05	SUTTER COUNTY
5-21.06	YUBA COUNTY
5-21.07	PLACER COUNTY
5-21.08	SACRAMENTO COUNTY
5-21.09	YOLO COUNTY
5-21.11	SOLANO COUNTY
5-22.00	SAN JOAQUIN VALLEY
	SAN JOAQUIN COUNTY

### LAHONTAN REGION (NO. 6)

6-1.00	SURPRISE VALLEY
6-4.00	HONEY LAKE VALLEY
6-5.01	SOUTH TAHOE VALLEY
6-5.02	NORTH TAHOE VALLEY
6-6.00	CARSON VALLEY
6-7.00	TOPAZ VALLEY
6-8.00	BRIDGEPORT VALLEY
6-67.00	TRUCKEE VALLEY

FIGURE E-1







# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								milligrams per liter equivalents per million percent reactance value							Mineral constituents in milligrams per liter				
Date Sampled Time	Agv. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>						
GOOSE LAKE VALLEY					50100	CENTRAL VALLEY REGION										50000								
44N/13E-36A 1 M 8-26-64 5050		--	8.3	185	--	--	24 1.04	--	1 0.03	97 1.59	--	4 0.11	--	--	--	--	42							
44N/14E-7K 1 M 8-26-64 5050		--	7.8	433	41 2.05 45	18 1.48 33	22 0.96 21	2 0.05 1	0	224 3.67 82	11 0.23 5	9 0.25 6	22.0 0.35 8	--	0.00	--	235 290 177							
45N/14E-32L 1 M 8-26-64 5050		--	7.6	239	--	--	13 0.57	--	0	149 2.44	--	2 0.06	--	--	--	--	97							
47N/13E-7Q 1 M 8-26-64 5050		--	8.3	212	18 0.90 40	8 0.66 30	13 0.57 26	4 0.10 4	0	133 2.18 94	2 0.04 2	4 0.11 5	0.0	--	0.00	--	114 160 78							
47N/14E-2H 1 M 8-26-64 5050		--	8.2	542	--	--	110 4.78	--	0	138 2.26	--	57 1.61	--	--	--	--	4							
47N/14E-14B 2 M 8-26-64 5050		--	7.4	163	--	--	5 0.22	--	0	89 1.46	--	0	--	--	--	--	69							
48N/13E-20G 1 M 8-26-64 5050		--	8.2	568	--	--	16 0.70	--	0	341 5.59	--	5 0.14	--	--	--	--	273							
48N/14E-23K 1 M 8-26-64 5050		--	7.4	236	22 1.10 45	8 0.66 27	15 0.65 26	2 0.05 2	0	131 2.15 86	4 0.08 3	1 0.03 1	14.0 0.23 9	--	0.00	--	130 158 88							
48N/14E-35A 1 M 8-26-64 5050		--	7.7	223	24 1.20 53	8 0.66 29	9 0.39 17	1 0.03 1	0	109 1.79 78	4 0.08 3	1 0.03 1	24.0 0.39 17	--	0.00	--	125 157 93							

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1  
MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter							
					Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness at CaCO <sub>3</sub>		
GOOSE LAKE VALLEY					50100	CENTRAL VALLEY REGION (CONTINUED)								50000						
48N/14E-35A 2 M 8-26-64 5050		--	7.6	753	--	--	148 6.44	--	0	216 3.54	--	91 2.57	--	3.1	4.10	--		13		
ALTURAS BASIN					50200															
39N/13E-6N 1 M 8-27-64 5050		--	8.1	189	--	--	27 1.18	--	0	104 1.69	--	4 0.13	--	--	--	--		27		
40N/12E-11F 1 M 8-27-64 5050		--	8.1	173	--	--	21 0.91	--	0	85 1.39	--	3 0.08	--	--	--	--		29		
40N/12E-25J 1 M 8-27-64 5050		--	8.2	460	--	--	66 2.87	--	0	259 4.25	--	6 0.17	--	--	--	--		81		
41N/11E-2J 1 M 8-27-64 5050		--	8.3	349	--	--	57 2.48	--	0	130 2.13	--	12 0.34	--	--	--	--		18		
41N/12E-15H 1 M 8-27-64 5050		--	8.1	219	--	--	27 1.18	--	0	110 1.80	--	7 0.18	--	--	--	--		39		
41N/13E-18P 1 M 8-25-64 5050		--	8.3	1020	--	--	24 1.04	--	0	280 4.59	--	14 0.39	--	--	--	--		529		
42N/10E-29H 1 M 8-27-64 5050		--	8.3	260	--	--	57 2.48	--	0	144 2.36	--	2 0.06	--	--	--	--		7		
42N/11E-19E 1 M 8-27-64 5050		--	8.5	470	--	--	100 4.35	--	4 0.13	223 3.65	--	7 0.20	--	--	--	--		6		

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										Mineral constituents in milligrams per liter							
					equivalents per million percent reactance value										milligrams per liter							
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>				
ALTURAS BASIN					50200	CENTRAL VALLEY REGION (CONTINUED)										50000						
42N/12E-11Q 1 M 8-27-64 5050		--	8.4	477	--	--	59 2.57	--	3 0.10	169 2.77	--	35 0.99	--	--	--	--	--		86			
42N/13E-31G 1 M 8-25-64 5050		--	8.5	582	--	--	103 4.48	--	7 0.23	362 5.93	--	4 0.11	--	--	--	--	--	78				
42N/13E-32G 1 M 8-25-64 5050		--	8.4	368	--	--	28 1.22	--	3 0.10	217 3.56	--	3 0.08	--	--	--	--	--	126				
BIG VALLEY					50400																	
37N/ 7E-13B 1 M 8- 4-64 5050		--	7.6	213	12 0.60 28	8 0.66 31	18 0.78 36	4 0.10 5	0 0	116 1.90 86	2 0.04 2	4 0.11 5	9.4 0.15 7	--	0.00	--	114 168	63				
38N/ 7E- 2P 1 M 8- 4-64 5050		--	7.4	524	29 1.45 28	20 1.64 31	44 1.91 36	10 0.26 5	0 0	239 3.92 77	4 0.08 2	39 1.10 21	1.4 0.02	--	0.10	--	265 325	155				
38N/ 7E-14G 5 M 8- 4-64 5050		--	7.2	536	43 2.15 42	23 1.89 37	24 1.04 20	3 0.08 2	0 0	91 1.49 29	106 2.21 43	44 1.24 24	12.0 0.19 4	--	0.00	--	300 389	202				
38N/ 7E-23D 1 M 8- 5-64 5050		--	7.5	280	15 0.75 27	11 0.90 32	25 1.09 39	3 0.08 3	0 0	150 2.46 88	6 0.12 4	7 0.20 7	1.0 0.02 1	--	0.00	--	142 201	83				
38N/ 8E-17K 1 M 8- 4-64 5050		--	7.8	214	13 0.65 28	12 0.99 42	14 0.61 26	3 0.08 3	0 0	121 1.98 90	6 0.12 5	2 0.06 3	1.7 0.03 1	--	0.00	--	111 177	82				
38N/ 9E-21L 1 M 8- 4-64 5050		--	8.1	334	18 0.90 26	4 0.33 9	48 2.09 59	8 0.20 6	0 0	198 3.25 95	2 0.04 1	4 0.11 3	1.6 0.03 1	--	0.00	--	183 266	62				

DWR 1962

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1  
MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter						milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter					
					Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180°C	TOTAL hardness est CaCO <sub>3</sub>			
BIG VALLEY					50400	CENTRAL VALLEY REGION (CONTINUED)										50000					
39N/ 7E-13Q 1 M 8- 4-64 5050		--	8.0	200	--	--	30 1.30	--	--	100 1.64	--	4 0.13	--	--	--	--	34				
39N/ 7E-14R 1 M 8- 5-64 5050		--	8.2	2170	180 8.98 38	91 7.48 32	160 6.96 30	2 0.05	0	544 8.92 45	149 3.10 16	246 6.94 35	56.0 0.90 5	--	0.00	--	1151 1360	824			
39N/ 8E-26J 1 M 8- 5-64 5050		--	7.8	1030	78 3.89 38	40 3.29 32	64 2.78 27	8 0.20 2	0	192 3.15 45	62 1.29 19	57 1.61 23	56.0 0.90 13	--	0.00	--	459 719	359			
39N/ 9E-28F20 M 8- 5-64 5050		--	7.9	188	20 1.00 50	1 0.08 4	18 0.78 39	5 0.13 7	0	109 1.79 94	1 0.02 1	2 0.06 3	2.5 0.04 2	--	0.00	--	103 161	54			
FALL RIVER VALLEY					50500																
37N/ 5E- 9N 1 M 8- 4-64 5050		--	7.6	713	30 1.50 19	19 1.56 20	106 4.61 59	6 0.15 2	0	439 7.20 93	2 0.04 1	18 0.51 7	1.9 0.03	--	0.30	--	399 432	153			
37N/ 5E-14R 1 M 8- 4-64 5050		--	9.5	195	--	--	40 1.74	-- ,	26 0.87	53 0.62	--	3 0.06	--	--	--	--	5				
37N/ 5E-19P 2 M 8- 4-64 5050		--	7.6	513	--	--	47 2.05	--	0	314 6.48	--	0	--	--	--	--	124				
37N/ 6E-19L 1 M 8- 4-64 5050		--	8.1	196	--	--	10 0.43	--	0	97 1.22	--	2 0.07	--	--	--	--	75				
37N/ 6E-29B 1 M 8- 4-64 5050		--	8.1	303	--	--	13 0.57	--	0	127 2.47	--	6 0.20	--	--	--	--	116				

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter							
					equivalents per million percent reactance value															
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-co SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>		
FALL RIVER VALLEY					50500	CENTRAL VALLEY REGION (CONTINUED)								50000						
38N/ 3E-24F 1 M 8- 4-64 5050		--	7.6	146	--	--	4 0.17	--	0	87 1.43	--	0	--	--	--	--	--	68		
38N/ 4E-30H 1 M 8- 4-64 5050		--	7.0	228	--	--	15 0.65	--	0	133 2.18	--	6 0.17	--	--	--	--	--	83		
REDDING BASIN					50600															
29N/ 4W- 2M 1 M 8-25-64 5050		--	8.2	188	--	--	16 0.70	--	0	109 1.75	--	3 0.06	--	--	--	--	--	63		
30N/ 3W- 4M 1 M 8-25-64 5050		--	8.1	186	--	--	9 0.39	--	0	107 1.77	--	3 0.06	--	--	--	--	--	77		
30N/ 3W-34D 1 M 8-25-64 5050		64	8.3	238	--	--	9 0.39	--	0	143 2.24	--	3 0.06	--	--	--	--	--	107		
30N/ 4W- 1E 1 M 8-26-64 5050		66	8.1	153	--	--	9 0.39	--	0	69 1.46	--	7 0.18	--	--	--	--	--	54		
30N/ 4W-16H 2 M 8-25-64 5050		66	8.2	193	--	--	11 0.48	--	0	107 1.77	--	5 0.12	--	--	--	--	--	77		
30N/ 5W-15R 1 M 8-25-64 5050		72	7.7	187	--	--	18 0.78	--	0	93 1.16	--	2 0.07	--	--	--	--	--	57		
30N/ 5W-17R 1 M 8-25-64 5050		68	8.1	143	--	--	17 0.74	--	0	82 1.25	--	2 0.07	--	--	--	--	--	37		

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										Mineral constituents in milligrams per liter					
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>		
REDDING BASIN					50600	CENTRAL VALLEY REGION (CONTINUED)														
31N/ 3W- 7K 1 M 8-25-64 5050		68	8.4	233	--	--	25 1.09	--	2 0.07	124 2.40	--	13 0.35	--	--	--	--	60			
31N/ 3W-12E 1 M 8-25-64 5050		65	8.3	391	--	--	43 1.87	--	0	128 2.46	--	52 1.22	--	--	--	--	81			
31N/ 4W- 7A 1 M 8-26-64 5050		--	8.4	225	--	--	15 0.65	--	3 0.10	138 2.38	--	3 0.06	--	--	--	--	90			
31N/ 4W-15B 1 M 8-26-64 5050		69	7.8	213	--	--	19 0.83	--	0	122 2.00	--	9 0.25	--	--	--	--	72			
31N/ 4W-16Q 1 M 8-26-64 5050		64	8.0	166	--	--	11 0.48	--	0	92 1.17	--	4 0.13	--	--	--	--	62			
31N/ 5W-13D 1 M 8-25-64 5050		--	8.0	458	--	--	68 2.96	--	0	143 2.24	--	66 2.15	--	--	--	--	61			
31N/ 5W-25K 1 M 8-25-64 5050		--	7.1	261	--	--	42 1.83	--	0	112 1.87	--	24 0.86	--	--	--	--	37			
32N/ 3W-17E 2 M 8-26-64 5050		63	8.4	2860	37 1.85 7	1 0.08	546 23.74 92	3 0.08	2 0.07	151 2.47 9	128 2.66 10	744 20.98 80	4.1 0.07	--	12.00	1551 1590	97			
32N/ 3W-20P 1 M 8-26-64 5050		66	8.3	322	--	--	45 1.96	--	0	103 1.70	--	34 0.77	--	--	--	--	46			

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter						
Date Sampled Time	Agg. Coll.				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>	
REDDING BASIN					50600	CENTRAL VALLEY REGION (CONTINUED)								5000					
32N/ 3W-32J 2 M 8-26-64 5050		--	8.3	445	--	--	39 1.69	--	0	167 3.12	--	43 1.40	--	--	--	--	127		
32N/ 3W-35C 1 M 8-25-64 5050		68	8.5	388	--	--	43 1.87	--	2 0.07	125 2.40	--	51 1.18	--	--	--	--	81		
32N/ 4W-14F 2 M 8-26-64 5050		--	8.3	210	--	--	39 1.69	--	0	91 1.11	--	10 0.28	--	--	--	--	20		
32N/ 4W-34P 1 M 8-26-64 5050		--	8.3	339	--	--	41 1.78	--	0	141 2.19	--	31 0.66	--	--	--	--	72		
32N/ 5W-26M 1 M 8-26-64 5050		--	8.3	282	--	--	27 1.18	--	0	125 2.40	--	9 0.24	--	--	--	--	83		

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1  
MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled ° F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter				
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>						
LAKE ALMANOR VALLEY					50700	CENTRAL VALLEY REGION										50000								
28N/ 7E- 5L 1 M 8-19-64 5050	--	7.9	88	9 0.45 51	2 0.16 18	5 0.22 25	2 0.05 6	0	45 0.74 90	1 0.02 2	1 0.03 4	1.7 0.03 4	0.00	--	44 89	31								
28N/ 7E- 5N 1 M 8-19-64 5050	--	7.8	90	9 0.45 51	2 0.16 18	5 0.22 25	2 0.05 6	0	52 0.85 94	1 0.02 2	1 0.03 3	0.0	0.00	0.0	46 86	31								
28N/ 7E- 7A 1 M 8-19-64 5050	--	7.9	105	12 0.60 56	2 0.16 15	6 0.26 24	2 0.05 5	0	63 1.03 95	1 0.02 2	1 0.03 3	0.1	0.00	--	55 89	38								
28N/ 7E- 7H 1 M 8-19-64 5050	--	8.0	140	16 0.80 55	5 0.41 28	4 0.17 12	3 0.08 5	0	83 1.36 94	1 0.02 1	2 0.06 4	0.2	0.00	--	72 108	61								
28N/ 7E-18B 1 M 8-19-64 5050	--	8.3	684	84 4.19 56	34 2.80 37	8 0.35 5	8 0.20 3	0	460 7.54 99	0	2 0.06 1	0.3	0.00	--	362 410	350								
28N/ 7E-18D 1 M 8-19-64 5050	--	7.6	69	8 0.40 61	1 0.08 12	3 0.13 20	2 0.05 8	0	42 0.69 100	0	0	0.2	0.00	--	35 66	24								
28N/ 7E-18M 1 M 8-19-64 5050	--	7.3	54	6 0.30 58	1 0.08 15	2 0.09 17	2 0.05 10	0	31 0.51 96	0	0	1.0 0.02 4	0.00	--	27 58	19								

TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter					
					Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>					
INDIAN VALLEY					50900	CENTRAL VALLEY REGION								50000									
26N/10E-28M 1 E 8-19-64 5050		--	8.2	153	14 0.70 41	8 0.66 39	8 0.35 20	0	0	95 1.56 96	2 0.04 2	1 0.03 2	0.1	--	0.00	--	80 111	68					
26N/10E-4E 1 M 8-19-64 5050		--	8.2	179	9 0.45 23	8 0.66 33	20 0.87 44	0	0	115 1.88 97	1 0.02 1	1 0.03 2	0.0	--	0.00	--	96 114	56					
26N/10E-6E 1 M 8-19-64 5050		--	8.1	516	25 1.25 28	10 0.82 18	56 2.43 54	1 0.03 1	0	111 1.82 40	10 0.21 5	89 2.51 55	1.1 0.02	--	0.70	--	247 288	104					
26N/10E-16P 1 M 8-19-64 5050		--	8.6	498	33 1.65 34	16 1.32 27	44 1.91 39	1 0.03 1	6 0.20 4	197 3.23 65	27 0.56 11	34 0.96 19	1.5 0.02	--	0.20	--	260 289	149					
26N/10E-18M 1 M 8-19-64 5050		--	--	--	18 0.90 34	15 1.23 47	11 0.48 18	0	2 0.07 3	143 2.34 91	6 0.12 5	1 0.03 1	0.1	--	0.00	--	123 144	107					
26N/10E-23A 1 M 8-19-64 5050		--	8.3	192	25 1.25 60	7 0.58 28	5 0.22 11	1 0.03 1	0	113 1.85 93	5 0.10 5	1 0.03 2	1.0 0.02 1	--	0.00	--	101 114	92					
26N/10E-27R 1 M 8-19-64 5050		--	8.0	115	9 0.45 40	5 0.41 36	5 0.22 19	2 0.05 4	0	61 1.00 88	4 0.08 7	1 0.03 3	1.0 0.02 2	--	0.00	--	57 80	43					
26N/10E-30F 1 M 8-19-64 5050		--	8.3	179	20 1.00 51	7 0.58 30	8 0.35 18	1 0.03 2	0	109 1.79 97	3 0.06 3	0	0.0	--	0.00	--	93 125	79					
27N/ 9E-35P 1 M 8-19-64 5050		--	8.4	227	25 1.25 51	10 0.82 33	9 0.39 16	0	2 0.07 3	140 2.29 93	2 0.04 2	2 0.06 2	0.0	--	0.00	--	119 156	104					

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter				
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>				
AMERICAN VALLEY					51000	CENTRAL VALLEY REGION								50000								
24N/ 9E- 2A 1 M 8-20-64 5050		--	8.3	182	10 0.50 26	11 0.90 47	11 0.48 25	0.03 2	0	120 1.97 98	2 0.04 2	0	0.0	--	0.00	--	94 116	70				
24N/ 9E-10H 1 M 8-20-64 5050		52	8.2	165	27 1.35 75	4 0.33 18	2 0.09 5	1 0.03 2	0	104 1.70 97	3 0.06 3	0	0.2	--	0.00	--	88 96	84				
24N/ 9E-10L 1 M 8-20-64 5050		--	7.2	32	5 0.25 86	0 0.04 14	1 0.04 14	0	0	16 0.26 87	2 0.04 13	0	0.0	--	0.00	--	16 29	13				
24N/ 9E-16H 1 M 8-20-64 5050		--	7.6	79	10 0.50 64	2 0.16 21	2 0.09 12	1 0.03 4	0	42 0.69 88	3 0.06 8	0	2.0 0.03 4	--	0.00	--	41 59	33				
24N/10E- 6N 1 M 8-20-64 5050		--	8.2	345	35 1.75 56	5 0.41 13	22 0.96 30	1 0.03 1	0	188 3.08 96	1 0.02 1	4 0.11 3	0.1	--	0.10	--	161 190	108				
24N/10E- 8L 1 M 8-20-64 5050		--	8.4	259	28 1.40 49	13 1.07 38	8 0.35 12	1 0.03 1	4 0.13 4	158 2.59 89	7 0.15 5	1 0.03 1	0.1	--	0.00	--	140 157	124				
24N/10E-18D 1 M 8-20-64 5050		--	7.5	99	12 0.60 64	3 0.25 27	2 0.09 10	0	0	54 0.89 87	4 0.08 8	1 0.03 3	1.2 0.02 2	--	0.00	--	50 64	43				
24N/10E-19B 1 M 8-20-64 5050		--	7.7	107	15 0.75 67	3 0.25 22	2 0.09 8	1 0.03 3	0	62 1.02 93	4 0.08 7	0	0.2	--	0.00	--	56 69	50				
24N/10E-19D 1 M 8-20-64 5050		--	7.5	103	12 0.60 55	4 0.33 30	3 0.13 12	1 0.03 3	0	63 1.03 94	3 0.06 6	0	0.0	--	0.00	--	54 67	47				

# MINERAL ANALYSES OF GROUND WATER

State Well Number	Temp. when Sampled ° F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										Mineral constituents in milligrams per liter			
				Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>
AMERICAN VALLEY				51000	CENTRAL VALLEY REGION												
24N/10E-20D 1 M		7.5	44	6	1	2	1	0	24	0	1	1.7	--	0.00	--	25	19
8-20-64 5050				0.30	0.08	0.09	0.03		0.39		0.03	0.03				36	
				60	16	18	6		87		7	7					

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1  
MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter						
					Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>	
MOHAWK VALLEY					51100	CENTRAL VALLEY REGION								50000					
22N/12E- 9Q 1 M	8-25-64 5050	--	8.2	329	16	15	15	5	0	114	4	0	45.0	--	0.00	--	156	102	
					0.80	1.23	0.65	0.13		1.87	0.08		0.73				183		
					28	44	23	5		70	3		27						
22N/13E-19N 1 M	8-25-64 5050	--	7.8	234	22	8	14	4	0	139	9	1	1.7	--	0.00	--	128	88	
					1.10	0.66	0.61	0.10		2.28	0.19	0.03	0.03				170		
					45	27	25	4		90	8	1	1						
22N/13E-30R 1 M	8-25-64 5050	--	7.5	377	13	11	44	3	0	103	66	20	1.1	--	0.40	--	209	78	
					0.65	0.90	1.91	0.08		1.69	1.37	0.56	0.02				256		
					18	25	54	2		46	38	15	1						
SIERRA VALLEY					51200														
21N/14E-22L 1 M	8-26-64 5050	--	7.6	739	24	18	91	11	0	172	23	117	1.6	--	0.80	--	371	134	
					1.20	1.48	3.96	0.28		2.82	0.48	3.30	0.03				426		
					17	21	57	4		43	7	50							
21N/14E-29J 1 M	8-26-64 5050	--	8.4	221	19	14	9	1	3	141	0	0	0.2	--	0.00	--	116	105	
					0.95	1.15	0.39	0.03	0.10	2.31							155		
					38	46	15	1	4	96									
21N/14E-36K 1 M	8-26-64 5050	--	8.3	195	16	10	10	3	1	118	1	2	2.2	--	0.00	--	103	81	
					0.80	0.82	0.43	0.08	0.03	1.93	0.02	0.06	0.04				143		
					38	38	20	4	1	93	1	3	2						
21N/15E- 5D 1 M	8-26-64 5050	--	7.8	1450	12	1	273	0	0	151	151	253	14.0	--	5.10	--	783	34	
					0.60	0.08	11.87			2.47	3.14	7.13	0.23				923		
					5	1	95			19	24	55	2						
21N/15E- 9Q 3 M	8-25-64 5050	--	7.8	239	12	7	26	5	0	133	13	0	0.5	--	0.10	--	129	59	
					0.60	0.58	1.13	0.13		2.18	0.27		0.01				186		
					25	24	46	5		89	11								
22N/14E-14F 2 M	8-26-64 5050	57	7.6	155	13	8	8	1	0	97	1	0	1.0	--	0.00	--	80	66	
					0.65	0.66	0.35	0.03		1.59	0.02		0.02				120		
					38	39	21	2		98	1		1						

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										Mineral constituents in milligrams per liter						
					Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Ni-trate NO <sub>3</sub>	Fluoride F	Baron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>			
SIERRA VALLEY					51200	CENTRAL VALLEY REGION (CONTINUED)										50000					
22N/15E-11F 1 M 8-25-64 5050		--	7.3	607	5 0.25 4	4 0.33 6	116 5.04 87	7 0.18 3	0	306 5.02 85	0	32 0.90 15	0.7 0.01	--	1.40	--	317 422	29			
22N/15E-12B 1 M 8-25-64 5050		75	7.2	261	4 0.20 12	4 0.33 19	24 1.04 60	6 0.15 9	0	143 2.34 98	0	1 0.03 1	0.9 0.01	--	0.10	--	110 175	27			
22N/15E-17C 3 M 8-25-64 5050		84	7.8	395	4 0.20 6	1 0.08 2	71 3.09 90	2 0.05 1	0	189 3.10 82	1 0.02 1	22 0.62 16	1.4 0.02 1	--	1.20	--	197 285	14			
22N/15E-26K 2 M 8-25-64 5050		--	7.9	1550	31 1.55 10	43 3.54 22	244 10.61 67	3 0.08 1	0	394 6.46 40	277 5.77 36	135 3.81 24	1.3 0.02	--	0.10	--	928 966	255			
22N/16E-5N 2 N 8-25-64 5050		74	7.3	197	3 0.15 9	3 0.25 16	26 1.13 70	3 0.08 5	0	114 1.87 98	0	1 0.03 2	0.6 0.01 1	--	0.10	--	93 157	20			
22N/16E-19E 1 M 8-25-64 5050		64	7.1	219	10 0.50 23	8 0.66 30	20 0.87 39	7 0.18 8	0	106 1.74 85	4 0.08 4	7 0.20 10	1.7 0.03 1	--	0.10	--	110 174	58			
23N/14E-35L 2 M 8-25-64 5050		--	8.0	798	21 1.05 15	1 0.08 1	136 5.91 84	1 0.03	0	88 1.44 20	108 2.25 32	118 3.33 47	0.8 0.01	--	1.70	--	431 456	57			
23N/15E-35C 1 M 8-25-64 5050		74	7.5	432	6 0.30 9	5 0.41 12	58 2.52 75	6 0.15 4	0	164 2.69 69	0	42 1.18 30	1.2 0.02 1	--	1.20	--	200 265	36			

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1  
MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (microhmhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter						
Date Sampled Time	Agg. Coll.				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>	
UPPER LAKE VALLEY					51300	CENTRAL VALLEY REGION										50000			
14N/ 9W- 6F 2 M 6- 4-64 5050		--	7.5	42	--	--	2 0.09	--	0	20 0.33	--	3 0.08	--	--	--	--	13		
15N/ 9W- 6F 1 M 6- 4-64 5050		60	8.1	190	--	--	6 0.26	--	0	96 1.57	--	5 0.14	--	--	--	--	81		
15N/ 9W- 7B 1 M 6- 4-64 5050		--	6.9	400	27 1.35 32	25 2.06 48	19 0.83 19	1 0.03 1	0	250 4.10 96	3 0.06 1	4 0.11 3	0.0	--	0.40	--	202 214 171		
15N/ 9W-31P 1 M 6- 4-64 5050		--	8.0	205	--	--	14 0.61	--	0	123 2.02	--	5 0.14	--	--	--	--	76		
15N/10W- 3C 1 M 6- 4-64 5050		--	8.5	386	--	--	9 0.39	--	6 0.20	208 3.41	--	7 0.20	--	--	--	--	194		
15N/10W- 3J 1 M 6- 4-64 5050		--	8.2	755	43 2.15 26	49 4.03 49	45 1.96 24	3 0.08 1	0	303 4.97 61	108 2.25 28	33 0.93 11	0.1	--	0.02	--	430 439 309		
15N/10W-10E 1 M 6- 4-64 5050		--	8.4	2020	26 1.30 7	6 0.49 3	392 17.04 90	3 0.08	22 0.73 4	267 4.38 23	4 0.08	482 13.59 72	3.1 0.05	--	10.00	--	1079 1240 90		
15N/10W-12K 2 M 6- 4-64 5050		--	8.0	211	--	--	7 0.30	--	0	110 1.80	--	4 0.11	--	--	--	--	90		
16N/ 9W-31L 3 M 6- 4-64 5050		--	8.3	244	--	--	11 0.48	--	0	130 2.13	--	4 0.11	--	--	--	--	104		

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										Mineral constituents in milligrams per liter				
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180°C	TOTAL hardness as CaCO <sub>3</sub>	
KELSEYVILLE VALLEY					51500	CENTRAL VALLEY REGION													
13N/ 9W- 2K 2 M 6-24-64 5050		62	8.5	608	--	--	12 0.52	--	8 0.27	342 5.61	--	--	16 0.45	--	--	--	323		
13N/ 9W- 3C 1 M 6- 4-64 5050		60	8.5	355	--	--	6 0.26	--	8 0.27	185 3.03	--	--	6 0.17	--	--	--	179		
13N/ 9W- 6B 1 M 6-24-64 5050		63	8.6	783	--	--	28 1.22	--	18 0.60	471 7.72	--	--	22 0.62	--	--	--	406		
13N/ 9W- 8B 1 M 6-11-64 5050		--	8.3	480	--	--	10 0.43	--	0	255 4.18	--	--	8 0.23	--	--	--	239		
13N/ 9W- 8N 2 M 6-11-64 5050		--	7.2	256	--	--	10 0.43	--	0	149 2.44	--	--	7 0.20	--	--	--	114		
13N/ 9W-17A 1 M 6-24-64 5050		--	7.3	1020	--	--	26 1.13	--	0	307 5.03	--	--	12 0.34	--	--	--	544		
13N/ 9W-17A 2 M 6-24-64 5050		--	7.1	414	--	--	11 0.48	--	0	207 3.39	--	--	9 0.25	--	--	--	194		
13N/ 9W-22J 1 M 6-24-64 5050		--	7.3	393	--	--	9 0.39	--	0	237 3.88	--	--	7 0.20	--	--	--	194		
14N/ 9W-32J 1 M 6-24-64 5050		--	8.3	786	--	--	16 0.70	--	0	503 8.24	--	--	18 0.51	--	--	--	428		

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter						
					Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>	
KELSEYVILLE VALLEY					51500	CENTRAL VALLEY REGION								50000					
14N/ 9W-32J 2 M 6- 4-64 5050					553	--	--	13 0.57	--	6 0.20	325 5.33	--	11 0.31	--	--	--	--	286	
HIGH VALLEY					51600														
14N/ 8W-23K 1 M 6- 3-64 5050					391	19 0.95 24	22 1.81 45	27 1.17 29	4 0.10 2	3 0.10 3	165 2.70 69	20 0.42 11	24 0.68 17	1.9 0.03 1	0.00	--	202 224	138	
14N/ 8W-24B 2 M 6- 3-64 5050					1300	84 4.19 27	96 7.90 50	81 3.52 22	6 0.15 1	0 0.00	910 14.91 97	0	18 0.51 3	0.4 0.01	3.80	--	737 800	605	
14N/ 8W-24L 1 M 6- 3-64 5050					934	72 3.59 33	59 4.85 44	55 2.39 22	4 0.10 1	0 0.00	615 10.08 94	0	9 0.25 2	25.0 0.40 4	0.08	--	526 595	422	
BURNS VALLEY					51700														
13N/ 7W-15N 1 M 6- 2-64 5050					283	16 0.80 27	9 0.74 25	32 1.39 47	1 0.03 1	5 0.17 6	149 2.44 85	1 0.02 1	6 0.17 6	4.7 0.08 3	1.00	--	149	77	
13N/ 7W-21B 1 M 6- 2-64 5050					206	15 0.75 35	11 0.90 42	11 0.48 23	0 0.00	0	103 1.69 80	12 0.25 12	6 0.17 8	0.9 0.01	0.00	--	107 128	83	
13N/ 7W-21H 1 M 6- 2-64 5050					810	10 0.50 6	56 4.61 52	84 3.65 41	5 0.13 1	18 0.60 7	395 6.47 73	0	64 1.80 20	0.6 0.01	8.20	--	440 518	256	
13N/ 7W-21J 1 M 6- 2-64 5050					701	66 3.29 39	44 3.62 43	33 1.43 17	4 0.10 1	26 0.87 10	424 6.95 83	1 0.02	17 0.48 6	1.2 0.02	1.40	--	402 476	346	

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter							
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-tre-ate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-cu SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>		
BURNS VALLEY					51700	CENTRAL VALLEY REGION (CONTINUED)														
13N/ 7W-22B 2 M	6- 3-64 5050	--	7.4	491	38	26	24	2	0	235	9	20	23.0	--	0.30	--	258	202		
					1.90	2.14	1.04	0.05		3.85	0.19	0.56	0.37				317			
					37	42	20	1		77	4	11	7							
SACRAMENTO VALLEY					52100															
						52101														
23N/ 2W- 5A 1 M	8-10-64 5050	--	8.1	222	--	--	21	--	0	122	--	4	--	--	--	--		72		
							0.91			2.42		0.13								
23N/ 3W-35B 1 M	8-10-64 5050	--	7.9	222	--	--	15	--	0	90	--	15	--	--	--	--		77		
							0.65			1.09		0.40								
24N/ 2W-30C 1 M	8-11-64 5050	--	7.8	487	--	--	28	--	0	264	--	11	--	--	--	--		200		
							1.22			8.49		0.31								

DWR 1962

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1  
MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter							
					Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>		
SACRAMENTO VALLEY TEHAMA COUNTY					52100	CENTRAL VALLEY REGION								50000						
24N/ 3W- 3P 1 M 8-11-64 5050		--	7.6	290	--	--	12 0.52	--	0	139 2.37	--	5 0.12	--	--	--	--	--	119		
24N/ 3W- 4K 1 M 8-11-64 5050		--	7.8	341	33 1.65 46	18 1.48 42	9 0.39 11	1 0.03 1	0	163 2.67 77	20 0.42 12	6 0.17 5	12.0 0.19 6	--	0.00	--	179 222	157		
24N/ 3W-14M 1 M 8-11-64 5050		--	7.7	254	--	--	14 0.61	--	0	140 2.17	--	5 0.12	--	--	--	--	--	104		
24N/ 3W-20N 1 M 8-11-64 5050		--	7.6	143	--	--	13 0.57	--	0	72 1.34	--	3 0.06	--	--	--	--	--	45		
25N/ 2W- 4M 1 M 8-11-64 5050		--	7.3	271	--	--	12 0.52	--	0	107 1.77	--	16 0.48	--	--	--	--	--	106		
25N/ 2W- 7K 1 M 8-11-64 5050		--	7.5	577	--	--	21 0.91	--	0	276 8.49	--	31 0.66	--	--	--	--	--	259		
25N/ 3W-31R 1 M 8-11-64 5050		--	7.5	442	--	--	9 0.39	--	0	247 7.74	--	6 0.20	--	--	--	--	--	219		
26N/ 3W- 3N 1 M 8-25-64 5050		--	7.5	337	--	--	14 0.61	--	0	173 2.97	--	8 0.17	--	--	--	--	--	146		
26N/ 3W-29E 1 M 8-25-64 5050		--	7.1	183	--	--	13 0.57	--	0	90 1.09	--	4 0.13	--	--	--	--	--	67		

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										Mineral constituents in milligrams per liter						
					Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>			
SACRAMENTO VALLEY TEHAMA COUNTY					52100	CENTRAL VALLEY REGION															
26N/ 4W-10D 1 M 8-25-64 5050	--	--	7.8	375	--	--	25 1.09	--	0	238 7.83	--	2 0.07	--	--	--	--		153			
27N/ 3W-19A 1 M 8-25-64 5050	--	--	7.8	227	--	--	15 0.65	--	0	134 2.32	--	3 0.06	--	--	--	--	89				
GLENN COUNTY					52102																
18N/ 2W- 7F 1 M 8-20-64 5101	71	71	8.6	566	23 1.15 19	31 2.55 41	56 2.43 39	1 0.03	9 0.30 5	261 4.28 65	77 1.60 24	9 0.25 4	8.1 0.13 2	--	0.20	--	343 342	185			
18N/ 3W-10K 1 M 8-20-64 5101	76	76	9.0	527	--	--	65 2.83	--	37 1.23	199 2.84	--	18 0.45	--	--	--	--	135				
18N/ 4W- 2F 1 M 8-20-64 5101	76	76	7.8	1070	75 3.74 34	41 3.37 30	91 3.96 36	1 0.03	0	380 6.23 57	22 0.46 4	116 3.27 30	63.0 1.02 9	--	0.60	--	596 649	356			
19N/ 2W- 6G 1 M 8-19-64 5101	70	70	8.8	340	--	--	12 0.52	--	18 0.60	169 3.10	--	6 0.20	--	--	--	--	159				
19N/ 2W-23N 1 M 8-19-64 5101	69	69	8.6	672	33 1.65 21	50 4.11 52	48 2.09 27	0	15 0.50 6	380 6.23 79	38 0.79 10	11 0.31 4	2.8 0.05 1	--	0.10	--	385 399	288			
19N/ 3W- 9J 1 M 8-20-64 5101	70	70	9.1	670	--	--	154 6.69	--	37 1.23	273 8.41	--	13 0.35	--	--	--	--	36				

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1  
MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter							
					Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>		
Date Sampled Time	Agy. Coll.																			
SACRAMENTO VALLEY GLENN COUNTY					52100	CENTRAL VALLEY REGION								50000						
19N/ 3W-18P 1 M 8-20-64 5101		78	8.9	616	--	--	57 2.48	--	27 0.90	241 3.95	--	25 0.71	--	--	--	--	--	213		
20N/ 2W-13Q 1 M 8-19-64 5101		72	9.0	454	--	--	18 0.78	--	23 0.77	236 3.87	--	9 0.25	--	--	--	--	210			
20N/ 3W- 2D 1 M 8-19-64 5101		67	8.8	441	--	--	16 0.70	--	17 0.57	185 2.87	--	22 0.80	--	--	--	--	192			
20N/ 4W- 2Q 1 M 8-19-64 5101		74	8.9	354	--	--	14 0.61	--	9 0.30	167 2.74	--	7 0.20	--	--	--	--	151			
21N/ 2W- 2D 1 M 8-18-64 5101		71	8.5	467	--	--	24 1.05	--	6 0.20	207 7.21	--	26 0.92	--	--	--	--	186			
21N/ 2W-15C 1 M 8-19-64 5101		68	8.7	438	49 2.45 52	17 1.40 30	19 0.83 18	1 0.03 1	10 0.33 7	188 3.08 67	15 0.31 7	27 0.76 17	6.8 0.11 2	--	0.10	--	237 283	193		
21N/ 3W- 2Q 1 M 8-18-64 5101		--	8.8	525	--	--	21 0.91	--	20 0.67	224 7.84	--	28 0.89	--	--	--	--	234			
21N/ 3W-20D 1 M 8-19-64 5101		72	8.7	364	--	--	28 1.22	--	9 0.30	146 2.31	--	28 0.89	--	--	--	--	120			
22N/ 1W-29C 1 M 8-18-64 5101		71	8.8	489	--	--	22 0.96	--	16 0.53	201 7.10	--	26 0.92	--	--	--	--	204			

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter						
Date Sampled Time	Agg. Coll.				Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- con SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>						
SACRAMENTO VALLEY GLENN COUNTY					52100	CENTRAL VALLEY REGION													50000					
22N/ 2W- 3A 1 M 8-18-64 5101		71	8.9	544	--	--	28 1.22	--	20 0.67	162 3.06	--	38 0.80	--	--	--	--	--		214					
22N/ 2W-26B 1 M 8-18-64 5101		68	8.6	453	49 2.45 50	19 1.56 32	20 0.87 18	1 0.03 1	11 0.37 8	203 3.33 69	22 0.46 9	21 0.59 12	6.1 0.10 2	--	0.20	--	249 273	201						
22N/ 3W- 4G 1 M 8-20-64 5101		75	8.8	493	--	--	19 0.83	--	19 0.63	221 3.62	--	23 0.65	--	--	--	--	--	213						
22N/ 3W-22Q 1 M 8-20-64 5101		72	8.6	348	--	--	19 0.83	--	7 0.23	130 2.27	--	22 0.80	--	--	--	--	--	130						
22N/ 3W-25B 1 M 8-18-64 5101		69	8.6	346	--	--	19 0.83	--	7 0.23	131 2.28	--	22 0.80	--	--	--	--	--	126						
22N/ 4W-10B 1 M 8-18-64 5101		73	8.9	546	--	--	17 0.74	--	23 0.77	214 7.30	--	33 0.70	--	--	--	--	--	244						

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter					
					Calcium	Magne-sium	Sodium	Potas-sium	Carbon-ate	Bicar-bonate	Sulfate	Chlo-ride	Ni-trate	Fluo-ride	Boron	Sili-ca	TDS Computed	TOTAL hardness as CaCO 3
Date Sampled Time	Agy. Coll.																	
SACRAMENTO VALLEY					52100													
BUTTE COUNTY					52103													
17N/ 1E- 1R 1 M	8- 5-64 5050	--	8.5	728	34 1.70 21	51 4.19 52	50 2.17 27	2 0.05 1	0	404 6.62 81	15 0.31 4	37 1.04 13	11.0 0.18 2	--	0.10	--	399 415	295
17N/ 2E- 2D 1 M	8- -64 5050	--	8.4	347	26 1.30 33	26 2.14 54	11 0.48 12	1 0.03 1	6 0.20 5	204 3.34 87	6 0.12 3	4 0.11 3	4.2 0.07 2	--	0.00	--	185 224	172
17N/ 3E-18Q 1 M	8- -64 5050	--	8.5	630	50 2.50 32	51 4.19 54	24 1.04 13	1 0.03 1	26 0.87 11	396 6.49 85	6 0.12 2	2 0.06 1	5.2 0.08 1	--	0.00	--	360 392	335
17N/ 4E-20P 1 M	8- 3-64 5050	--	8.2	442	30 1.50 35	13 1.07 25	38 1.65 39	2 0.05 1	0	146 2.39 55	15 0.31 7	58 1.64 38	1.1 0.02	--	0.30	--	229 285	129
18N/ 1E-14R 1 M	8- 3-64 5050	--	8.3	291	23 1.15 36	16 1.32 42	14 0.61 19	3 0.08 3	4 0.13 4	166 2.72 86	7 0.15 5	5 0.14 4	1.3 0.02 1	--	0.00	--	155 211	124
18N/ 2E-12B 1 M	8- -64 5050	--	7.5	222	18 0.90 37	13 1.07 44	11 0.48 20	0 0.05 1	0	132 2.16 90	7 0.15 6	2 0.06 3	1.2 0.02 1	--	0.00	--	117 155	99
18N/ 3E-16P 2 M	8- -64 5050	--	8.4	610	47 2.35 33	50 4.11 58	12 0.52 7	2 0.05 1	8 0.27 4	292 4.79 70	49 1.02 15	7 0.20 3	35.0 0.56 8	--	0.00	--	354 380	323

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter							
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>		
SACRAMENTO VALLEY BUTTE COUNTY					52100	CENTRAL VALLEY REGION								50000						
18N/ 3E-33D 1 M 8- -64 5050		--	7.9	255	19 0.95 34	15 1.23 44	12 0.52 19	3 0.08 3	0	155 2.54 94	3 0.06 2	4 0.11 4	0.3	--	0.00	--	133 176	109		
18N/ 4E-21P 1 M 8-18-64 5050		--	8.4	246	21 1.05 40	13 1.07 41	11 0.48 18	1 0.03 1	2 0.07 3	122 2.00 79	7 0.15 6	6 0.17 7	8.1 0.13 5	--	0.20	--	129 177	106		
18N/ 4E-28M 1 M 8-18-64 5050		--	8.4	2420	43 2.15 8	26 2.14 8	495 21.52 83	3 0.08 2	12 0.40 2	136 2.23 9	680 14.16 59	260 7.33 30	4.8 0.08	--	5.80	--	1596 1620	215		
20N/ 2E-29R 3 M 11- 1-63 5050		--	7.9	389	32 1.60 40	17 1.40 35	22 0.96 24	2 0.05 1	0	178 2.92 75	8 0.17 4	28 0.79 20	0.0	--	0.00	--	197 245	150		

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1  
MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter							milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter				
					Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Baron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>			
SACRAMENTO VALLEY BUTTE COUNTY					52100	CENTRAL VALLEY REGION							50000								
20N/ 2E-29R 1 M 10-24-64 5050		--	8.7	626	56 2.79 40	33 2.71 39	32 1.39 20	2 0.05 1	28 0.93 13	234 3.84 55	18 0.37 5	61 1.72 25	8.2 0.13 2	--	0.00	--	353 418	275			
20N/ 3E-15H 1 M 7-10-64 5050		--	8.3	154	13 0.65 38	9 0.74 44	6 0.26 15	2 0.05 3	4 0.13 8	84 1.38 83	4 0.08 5	1 0.03 2	2.2 0.04 2	--	0.00	--	83 111	70			
21N/ 1E-26Q 1 M 9-25-64 5050		--	8.7	497	42 2.10 35	36 2.96 49	22 0.96 16	2 0.05 1	28 0.93 16	283 4.64 77	8 0.17 3	5 0.14 2	6.6 0.11 2	--	0.00	--	289 321	253			
21N/ 2E-30C 1 M 9-29-64 5050		--	8.6	256	20 1.00 34	18 1.48 51	9 0.39 13	1 0.03 1	12 0.40 14	130 2.13 74	7 0.15 5	2 0.06 2	9.1 0.15 5	--	0.00	--	142 198	124			
21N/ 3E-10Q 1 M 9- 8-64 5050		--	8.5	253	22 1.10 38	16 1.32 46	9 0.39 14	2 0.05 2	16 0.53 19	132 2.16 77	0 0.08 3	3 0.08 3	2.8 0.05 2	--	0.00	--	136 200	121			
22N/ 1E- 9M 1 M 9-25-64 5050		--	8.1	498	38 1.90 34	35 2.88 52	17 0.74 13	1 0.03 1	18 0.60 11	226 3.70 67	13 0.27 5	12 0.34 6	36.0 0.58 11	--	0.10	--	281 296	239			
22N/ 2E-18J 1 M 9- 8-64 5050		--	8.4	210	14 0.70 33	11 0.90 42	12 0.52 24	1 0.03 1	2 0.07 3	106 1.74 80	4 0.08 4	8 0.23 11	2.9 0.05 2	--	0.20	--	107 147	80			
23N/ 1E- 9L 1 M 7-21-64 5050		--	7.5	451	34 1.70 36	31 2.55 53	11 0.48 10	2 0.05 1	0 0.07 3	210 3.44 75	15 0.31 7	4 0.11 2	45.0 0.73 16	--	0.00	--	245 295	213			
23N/ 1E-32K 1 M 7-27-64 5050		--	7.9	191	15 0.75 39	8 0.66 34	11 0.48 25	1 0.03 2	0 0.07 3	88 1.44 76	1 0.02 1	5 0.14 7	18.0 0.29 15	--	0.10	--	102 150	71			

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled ° F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter						
					Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Barium Ba	Silica SiO <sub>2</sub>	IDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>	
SACRAMENTO VALLEY COLUSA COUNTY					52100	CENTRAL VALLEY REGION								50000					
13N/ 1W- 88 1 M 5-28-64 5050					90 4.49 39	51 4.19 36	64 2.78 24	2 0.05	0	189 3.10 27	6 0.12 1	289 8.15 71	6.9 0.11 1	--	0.40	--	602 696	434	
13N/ 1W-15R 2 M 5-28-64 5050					--	--	43 1.87	--	0	251 7.65	--	24 0.86	--	--	--	--		234	
13N/ 1W-36Q 2 M 6-16-64 5050					--	--	36 1.56	--	0	187 2.94	--	31 0.66	--	--	--	--		140	
13N/ 2W-10R 1 M 5-28-64 5050					--	--	121 5.26	--	0	187 2.94	--	258 8.56	--	2.50	--	--		288	
13N/ 2W-15D 1 M 5-28-64 5050					--	--	78 3.39	--	0	207 7.21	--	82 1.75	--	1.40	--	--		144	
13N/ 2W-22G 1 M 5-28-64 5050					49 2.45 30	39 3.21 39	57 2.48 30	2 0.05 1	0	278 4.56 56	7 0.15 2	118 3.33 41	6.9 0.11 1	0.70	--	416 468	283		
13N/ 2W-29R 1 M 5-28-64 5050					37 1.85 19	38 3.13 32	106 4.61 48	2 0.05 1	0	260 4.26 43	20 0.42 4	181 5.10 52	5.0 0.08 1	1.90	--	519 565	249		
14N/ 1E-18A 1 M 6-16-64 5050					--	--	66 2.87	--	2 0.07	201 7.10	--	8 0.17	--	--	--	--		40	
14N/ 1W- 2D 1 M 6-16-64 5050					49 2.45 25	41 3.37 35	88 3.83 39	3 0.08 1	0	232 3.80 38	93 1.94 20	148 4.17 42	0.8 0.01	0.20	--	537 596	291		

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1  
MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter						Mineral constituents in milligrams per liter							
					Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>
SACRAMENTO VALLEY COLUSA COUNTY					52100	CENTRAL VALLEY REGION						50000						
14N/ 1W-12A 1 M 6-16-64 5050	--	8.4	581	11 0.55 9	6 0.49 8	110 4.78 82	1 0.03 1	3 0.10 2	261 4.28 73	2 0.04 1	51 1.44 25	0.0	--	0.60	--	313 354	52	
14N/ 1W-31Q 1 M 5-28-64 5050	--	8.2	510	38 1.90 38	16 1.32 26	40 1.74 35	1 0.03 1	0	164 2.69 55	5 0.10 2	70 1.97 40	8.6 0.14 3	--	0.50	--	260 298	161	
14N/ 2W-29J 1 M 5-28-64 5050	--	8.0	270	14 0.70 26	13 1.07 39	21 0.91 34	1 0.03 1	0	138 2.26 85	1 0.02 1	7 0.20 8	11.0 0.18 7	--	0.00	--	136 163	89	
14N/ 2W-35P 1 M 5-28-64 5050	--	8.0	502	25 1.25 25	23 1.89 38	40 1.74 35	1 0.03 1	0	192 3.15 65	6 0.12 2	53 1.49 31	6.7 0.11 2	--	0.40	--	250 286	157	
15N/ 2W-32R 1 M 5-28-64 5050	--	8.0	680	--	--	60 2.61	--	0	306 6.40	--	34 0.77	--	--	--	--		234	
15N/ 4W-25P 1 M 5-28-64 5050	--	7.9	1020	44 2.20 22	28 2.30 23	130 5.65 55	2 0.05	0	343 5.62 54	92 1.92 18	103 2.90 28	1.4 0.02	--	5.20	--	574 598	225	
16N/ 1W-29J 1 M 5-28-64 5050	--	8.3	381	22 1.10 27	18 1.48 37	33 1.43 35	1 0.03 1	0	236 3.87 94	0	8 0.23 6	0.5 0.01	--	0.40	--	199 232	129	
16N/ 2W- 4H 1 M 5-28-64 5050	--	8.1	621	--	--	48 2.09	--	0	226 7.93	--	41 1.37	--	--	--	--		217	
16N/ 2W-35B 1 M 5-28-64 5050	--	8.0	695	17 0.85 12	25 2.06 29	98 4.26 59	2 0.05 1	0	270 4.43 62	72 1.50 21	41 1.16 16	0.9 0.01	--	0.30	--	389 431	146	

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter				
Date Sampled Time	Agy. Coll.				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>				
SACRAMENTO VALLEY COLUSA COUNTY					52100	CENTRAL VALLEY REGION										50000						
16N/ 3W- 9N 1 M 5-28-64 5050	--	8.1	640	--	--	59 2.56	--	0	240 7.62	--	68 2.12	--	--	--	--	--	201					
17N/ 1W- 6R 1 M 6-16-64 5050	--	8.2	347	28 1.40 38	12 0.99 27	28 1.22 33	2 0.05 1	0	201 3.29 92	2 0.04 1	9 0.25 7	0.0	0.10	--	180 204	120						
17N/ 2W-12C 1 M 5-28-64 5050	--	8.3	482	--	--	35 1.52	--	0	269 8.54	--	21 0.75	--	--	--	--	183						
17N/ 3W-33R 1 M 5-28-64 5050	--	8.3	1010	--	--	144 6.26	--	0	279 8.46	--	120 3.54	--	--	--	--	192						
13N/ 1E-22J 1 M 6-16-64 5050	--	7.8	973	--	--	44 1.92	--	0	521 6.25	--	18 0.45	--	--	--	--	468						
13N/ 1W- 7A 1 M 5-28-64 5050	--	7.8	1670	154 7.68 51	45 3.70 24	86 3.74 25	1 0.03	0	158 2.59 17	8 0.17 1	441 12.44 81	8.6 0.14 1	0.50	--	822 1050	569						

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								milligrams per liter equivalents per million percent reactance value								Mineral constituents in milligrams per liter																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
SUTTER COUNTY						52105																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										Mineral constituents in milligrams per liter					
Date Sampled Time	Agy. Coll.				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Computed Evap 180°C	TOTAL hardness as CaCO <sub>3</sub>		
SACRAMENTO VALLEY SUTTER COUNTY					52100	CENTRAL VALLEY REGION														
12N/ 2E-14B 1 M 5-26-64 5050					--	--	546 23.74	--	4 0.13	190 3.11	--	1280 36.10	--	--	--	--	--	804		
12N/ 2E-16R 1 M 5-26-64 5050					--	--	166 7.22	--	20 0.67	401 6.57	--	83 2.34	--	--	--	--	126			
12N/ 2E-23Q 1 M 5-26-64 5050					14 0.70 8	10 0.82 9	172 7.48 82	3 0.08 1	8 0.27 3	249 4.08 44	3 0.06 1	176 4.96 53	0.2	--	0.80	509 564	76			
12N/ 2E-26A 1 M 5-26-64 5050					--	--	195 8.48	--	9 0.30	264 4.33	--	227 6.40	--	--	--	--	116			
12N/ 3E-26R 1 M 6- 3-64 5050					46 2.30 29	43 3.54 44	50 2.17 27	1 0.03	5 0.17 2	202 3.31 41	14 0.29 4	154 4.34 53	0.5 0.01	--	0.20	413 492	292			
13N/ 3E-10M 2 M 5-26-64 5050					--	--	49 2.13	--	14 0.47	325 5.33	--	90 2.54	--	--	--	--	374			
13N/ 4E-21A 1 M 5-22-64 5050					86 4.29 39	67 5.51 51	24 1.04 10	2 0.05	0	310 5.08 47	257 5.35 50	12 0.34 3	1.8 0.03	--	0.10	602 684	490			
14N/ 1E-24N 1 M 5-20-64 5050					18 0.90 23	19 1.56 41	31 1.35 35	1 0.03 1	5 0.17 4	193 3.16 84	12 0.25 7	7 0.20 5	0.2	--	0.20	188 230	123			
14N/ 3E- 3C 2 M 6- 1-64 5050					67 3.34 26	82 6.74 53	58 2.52 20	4 0.10 1	0	144 2.36 28	74 1.54 18	161 4.54 54	1.4 0.02	--	0.20	518 758	504			

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1  
MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter						
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>	
SACRAMENTO VALLEY SUTTER COUNTY					52100	CENTRAL VALLEY REGION								50000					
14N/ 3E-14E 2 M 6-26-64 5050		--	8.0	294	--	--	8 0.35	--	0	169 2.77	--	3 0.08	--	--	--	135			
14N/ 3E-15H 1 M 5-26-64 5050		--	8.5	1020	--	--	52 2.26	--	8 0.27	418 6.85	--	103 2.90	--	--	--	443			
14N/ 3E-16B 2 M 6-18-64 5050		--	8.5	1490	--	--	66 2.87	--	14 0.47	344 5.64	--	270 7.61	--	--	--	626			
14N/ 3E-18A 2 M 7-15-64 5050		--	8.4	733	44 2.20	--	--	--	5 0.17	387 6.34	--	35 0.99	--	--	--	110			
14N/ 3E-23M 2 M 6-24-64 5050		--	8.2	400	--	--	19 0.83	--	0	213 3.49	--	5 0.14	--	--	--	169			
14N/ 3E-28D 1 M 6-24-64 5050		66	8.4	1040	74 3.69 35	52 4.28 41	58 2.52 24	2 0.05	4 0.13 1	292 4.79 45	37 0.77 7	173 4.88 46	0.4 0.01	--	0.20	399			
14N/ 3E-28R 1 M 5-22-64 5050		--	8.2	1570	--	--	77 3.35	--	0	297 4.87	--	350 9.87	--	--	--	600			
14N/ 3E-31B 3 M 5-22-64 5050		68	8.4	1020	34 1.70 17	48 3.95 39	103 4.48 44	3 0.08 1	10 0.33 3	276 4.52 45	13 0.27 3	171 4.82 48	7.6 0.12 1	--	0.20	283			
15N/ 1E-16R 1 M 5-25-64 5050		65	8.2	731	57 2.84 34	52 4.28 52	25 1.09 13	3 0.08 1	0	437 7.16 87	16 0.33 4	25 0.71 9	3.2 0.05 1	--	1.10	356			

10

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										Mineral constituents in milligrams per liter									
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>						
SACRAMENTO VALLEY SUTTER COUNTY					52100	CENTRAL VALLEY REGION														50000				
15N/ 1E-35R 1 M 5-25-64 5050	--	8.5	751	--	--	--	17 0.74	--	5 0.17	321 5.26	--	69 1.95	--	--	--	--	--		367					
15N/ 2E-26D 2 M 5-19-64 5050	68	8.6	956	--	--	--	52 2.26	--	16 0.53	382 6.26	--	68 1.92	49.0 0.79	--	--	--	--	412						
15N/ 3E- 4C 2 M 5-19-64 5050	65	8.3	965	--	--	--	30 1.30	--	0	471 7.72	--	25 0.71	50.0 0.81	--	--	--	--	487						
15N/ 3E-15C 0 M 7-13-64 5050	--	8.1	154	11 0.55 33	10 0.82 49	6 0.26 16	1 0.03 2	0	88 1.44 92	2 0.04 3	3 0.08 5	0.4 0.01 1	--	--	0.00	--	77 108	69						
15N/ 3E-23C 0 M 7-13-64 5050	--	8.4	400	16 0.80 19	11 0.90 21	56 2.43 57	4 0.10 2	2 0.07 2	218 3.57 85	3 0.06 1	17 0.48 11	0.5 0.01	--	--	0.40	--	217 263	85						
15N/ 3E-26M 1 M 6-11-64 5050	64	8.2	421	--	--	--	44 1.91	--	0	216 3.54	--	24 0.68	--	--	--	--	--	120						
16N/ 3E- 4E 1 M 5-20-64 5050	--	8.3	358	22 1.10 30	22 1.81 49	17 0.74 20	1 0.03 1	0	140 2.29 64	34 0.71 20	3 0.08 2	30.0 0.48 13	--	--	0.00	--	198 257	146						
YUBA COUNTY					52106																			
13N/ 5E- 4B 2 M 7-22-64 5050	--	8.1	922	42 2.10 25	12 0.99 12	118 5.13 62	2 0.05 1	0	114 1.87 22	18 0.37 4	215 6.06 73	2.9 0.05 1	--	--	0.50	--	466 570	155						

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										Mineral constituents in milligrams per liter							
Date Sampled Time	Agy. Coll.				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>				
SACRAMENTO VALLEY YUBA COUNTY					52100	CENTRAL VALLEY REGION										50000						
52106 (CONTINUED)																						
14N/ 3E-24M 0 M 7-20-64 5050	--	--	7.7	481	35 1.75 34	25 2.06 40	28 1.22 24	3 0.08 2	0	217 3.56 71	33 0.69 14	25 0.71 14	1.7 0.03 1	--	0.10	--	257 280	191				
14N/ 4E- 7M 1 M 7-20-64 5050	69	69	8.4	552	--	--	27 1.17	--	4 0.13	240 3.93	--	20 0.56	--	--	--	--		241				
14N/ 4E-22H 1 M 7-22-64 5050	--	--	7.5	242	--	--	18 0.78	--	0	99 1.62	--	18 0.51	--	--	--	--		73				
14N/ 5E-15C 1 M 7-22-64 5050	--	--	8.2	212	--	--	14 0.61	--	0	83 1.36	--	15 0.42	--	--	--	--		70				
14N/ 5E-16C 2 M 7-22-64 5050	--	--	7.5	217	--	--	21 0.91	--	0	89 1.46	--	16 0.45	--	--	--	--		58				
14N/ 5E-21G 1 M 7-22-64 5050	67	67	8.0	687	41 2.05 33	15 1.23 20	65 2.83 46	2 0.05 1	0	90 1.48 24	18 0.37 6	149 4.20 69	2.2 0.04 1	--	0.20	--	337 464	164				
14N/ 5E-22M 1 M 7-22-64 5050	--	--	7.9	367	22 1.10 33	8 0.66 20	34 1.48 45	2 0.05 2	0	88 1.44 44	10 0.21 6	56 1.58 48	3.1 0.05 2	--	0.00	--	178 243	88				
14N/ 5E-30J 2 M 7-22-64 5050	--	--	7.8	393	--	--	37 1.61	--	0	101 1.66	--	63 1.78	--	--	--	--		96				
15N/ 4E-20J 2 M 7-21-64 5050	--	--	8.2	397	--	--	14 0.61	--	0	184 3.02	--	7 0.20	--	--	--	--		179				

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										Mineral constituents in milligrams per liter					
Date Sampled Time	Agy. Coll.				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Computed Every 180° C	TOTAL hardness as CaCO <sub>3</sub>		
SACRAMENTO VALLEY YUBA COUNTY					52100	CENTRAL VALLEY REGION														
15N/ 4E-31A 1 M 7-21-64 5050	--	8.3	251	--	--	--	12 0.52	--	0	137 2.25	--	9 0.25	--	--	--	--	101			
15N/ 5E-19N 1 M 7-22-64 5050	71	7.7	168		9 0.45 28	6 0.49 30	15 0.65 40	1 0.03 2	0	70 1.15 72	4 0.08 5	8 0.23 14	8.6 0.14 9	--	0.00	--	86 158 47			
16N/ 3E-11N 1 M 7-16-64 5050	--	7.5	1300		--	--	110 4.78	--	0	170 2.79	--	322 9.08	--	--	--	--	355			
16N/ 3E-11R 2 M 8-6-64 5050	--	7.9	478		--	--	17 0.74	--	0	263 4.31	--	8 0.23	--	--	--	--	222			
16N/ 3E-23B 1 M 7-16-64 5050	67	8.0	262		17 0.85 31	16 1.32 49	11 0.48 18	2 0.05 2	0	134 2.20 80	10 0.21 8	7 0.20 7	8.2 0.13 5	--	0.00	--	127 172 109			
16N/ 3E-26Q 1 M 7-16-64 5050	68	8.1	263		24 1.20 44	10 0.82 30	15 0.65 24	3 0.08 3	0	133 2.18 80	10 0.21 8	12 0.34 12	0.4 0.01	--	0.00	--	140 193 101			
16N/ 4E-9D 1 M 7-16-64 5050	--	7.6	216		--	--	11 0.48	--	0	78 1.28	--	13 0.37	--	--	--	--	78			
16N/ 4E-9D 2 M 7-16-64 5050	--	7.4	220		15 0.75 34	10 0.82 37	13 0.57 26	2 0.05 2	0	96 1.57 72	11 0.23 11	13 0.37 17	0.2	--	0.00	--	111 176 79			

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE B-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter					
					Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>					
SACRAMENTO VALLEY PLACER COUNTY					52100	CENTRAL VALLEY REGION								50000									
10N/ 5E- 6D 1 M 7- 8-64 5050		--	7.9	304	19 0.95 31	10 0.82 27	28 1.22 40	1 0.03 1	0	138 2.26 77	1 0.02 1	19 0.54 18	6.2 0.10 3	--	0.20	--	152 193	89					
10N/ 6E- 5C 0 M 7- 8-64 5050		--	7.5	180	10 0.50 28	8 0.66 37	14 0.61 34	1 0.03 2	0	83 1.36 74	1 0.02 1	10 0.28 15	12.0 0.19 10	--	0.00	--	97 175	58					
10N/ 6E-10D 0 M 7- 8-64 5050		--	7.2	438	30 1.50 34	21 1.73 39	27 1.17 26	2 0.05 1	0	189 3.10 72	5 0.10 2	30 0.85 20	14.0 0.23 5	--	0.00	--	222 291	162					
11N/ 5E- 6A 1 M 7- 8-64 5050		--	8.0	232	14 0.70 30	8 0.66 28	22 0.96 41	2 0.05 2	0	111 1.82 79	1 0.02 1	13 0.37 16	5.4 0.09 4	--	0.20	--	120 188	68					
11N/ 5E-18H 1 M 7- 8-64 5050		--	8.0	243	15 0.75 30	9 0.74 30	22 0.96 39	1 0.03 1	0	113 1.85 77	1 0.02 1	15 0.42 18	6.4 0.10 4	--	0.10	--	125 178	75					
11N/ 5E-31A 1 M 7- 8-64 5050		--	8.2	268	15 0.75 27	9 0.74 27	28 1.22 45	1 0.03 1	0	123 2.02 77	1 0.02 1	19 0.54 20	3.7 0.06 2	--	0.10	--	137 178	75					
11N/ 6E-16M 1 M 7- 8-64 5050		--	8.0	348	13 0.65 21	6 0.49 16	44 1.91 62	2 0.05 2	0	86 1.41 46	8 0.17 6	45 1.27 41	14.0 0.23 7	--	0.70	--	175 263	57					
11N/ 6E-27Q 0 M 7- 8-64 5050		--	7.7	285	19 0.95 34	10 0.82 30	22 0.96 35	1 0.03 1	0	134 2.20 80	3 0.06 2	14 0.39 14	5.3 0.09 3	--	0.10	--	140 221	89					
11N/ 6E-34B 0 M 7- 8-64 5050		--	7.5	266	19 0.95 34	11 0.90 32	21 0.91 33	1 0.03 1	0	142 2.33 85	4 0.08 3	10 0.28 10	2.6 0.04 1	--	0.10	--	139 177	93					

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter					
					Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>					
SACRAMENTO VALLEY PLACER COUNTY					52100	CENTRAL VALLEY REGION								50000									
12N/ 5E-2B 1 M 7- 8-64 5050					186	10	8	17	1	0	92	6	7	1.6	--	0.20	--	96	58				
						0.50	0.66	0.74	0.03		1.51	0.12	0.20	0.03			179						
						26	34	38	2		81	6	11	2									
12N/ 5E-3A 1 M 7- 8-64 5050					186	12	10	10	1	0	84	1	7	12.0	--	0.00	--	94	71				
						0.60	0.82	0.43	0.03		1.38	0.02	0.20	0.19			166						
						32	44	23	2		77	1	11	11									
12N/ 5E-23P 2 M 7- 8-64 5050					221	10	9	22	1	0	94	2	12	14.0	--	0.20	--	116	62				
						0.50	0.74	0.96	0.03		1.54	0.04	0.34	0.23			201						
						22	33	43	1		72	2	16	11									
12N/ 6E-16D 2 M 7- 8-64 5050					789	21	18	114	1	0	162	70	104	18.0	--	1.20	--	427	127				
						1.05	1.48	4.96	0.03		2.66	1.46	2.93	0.29			492						
						14	20	66			36	20	40	4									
13N/ 5E-13D 1 M 7- 8-64 5050					506	18	12	62	1	0	82	44	77	4.9	--	0.40	--	260	95				
						0.90	0.99	2.70	0.03		1.34	0.92	2.17	0.08			349						
						19	21	58	1		30	20	48	2									
13N/ 5E-22C 2 M 7- 8-64 5050					650	32	14	70	2	0	81	35	127	5.1	--	0.40	--	325	138				
						1.60	1.15	3.04	0.05		1.33	0.73	3.58	0.08			445						
						27	20	52	1		23	13	63	1									
13N/ 5E-24P 1 M 7- 8-64 5050					248	13	9	24	1	0	105	6	18	4.1	--	0.10	--	127	70				
						0.65	0.74	1.04	0.03		1.72	0.12	0.51	0.07			192						
						26	30	42	1		71	5	21	3									
13N/ 6E-16D 1 M 7- 8-64 5050					130	8	4	11	1	0	51	5	5	9.8	--	0.00	--	69	37				
						0.40	0.33	0.48	0.03		0.84	0.10	0.14	0.16			104						
						32	27	39	2		68	8	11	13									
13N/ 6E-33C 1 M 7- 8-64 5050					246	18	13	14	0	0	126	13	6	1.6	--	0.00	--	128	99				
						0.90	1.07	0.61			2.07	0.27	0.17	0.03			172						
						35	41	24			81	11	7	1									

DWR 1962

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter						milligrams per liter equivalents per million percent reactance value						Mineral constituents in milligrams per liter				
Date Sampled Time	Agy. Coll.				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>			
SACRAMENTO VALLEY SACRAMENTO COUNTY					52100	CENTRAL VALLEY REGION						50000									
5N/ 5E- 3F 1 M 9-23-64 5050		--	7.9	380	25 1.25 30	21 1.73 42	26 1.13 27	2 0.05 1	0	221 3.62 88	9 0.19 5	11 0.31 8	0.4 0.01	--	0.10	203 248	149				
5N/ 7E- 7E 2 M 9-23-64 5050		--	8.2	173	12 0.60 45	5 0.41 31	6 0.26 20	2 0.05 4	0	78 1.28 76	1 0.02 1	9 0.25 15	8.8 0.14 8	--	0.00	82 170	51				
6N/ 6E-29J 1 M 9-23-64 5050		--	9.3	312	22 1.10 33	13 1.07 32	25 1.09 33	2 0.05 2	37 1.23 38	90 1.48 45	10 0.21 6	10 0.28 9	5.1 0.08 2	--	0.00	168 243	109				
6N/ 8E-15J 1 M 8-29-64 5050		--	8.0	153	12 0.60 42	5 0.41 28	8 0.35 24	3 0.08 6	0	58 0.95 66	1 0.02 1	10 0.28 19	12.0 0.19 13	--	0.00	80 173	51				
7N/ 5E- 7C 1 M 9-24-64 5050		--	8.5	265	24 1.20 45	8 0.66 25	18 0.78 29	2 0.05 2	4 0.13 5	124 2.05 74	0 0.06 2	20 0.56 20	1.2 0.02 1	--	0.00	138 168	93				
7N/ 5E-32J 2 M 9-23-64 5050		--	9.1	333	18 0.90 27	16 1.32 40	24 1.04 31	2 0.05 2	21 0.70 23	120 1.97 64	3 0.06 2	11 0.31 10	1.9 0.03 1	--	0.00	156 197	111				
7N/ 6E-22R 2 M 9-24-64 5050		--	7.7	221	15 0.75 33	10 0.82 36	15 0.65 29	1 0.03 1	0	121 1.98 89	0 0.06 2	6 0.17 8	4.5 0.07 3	--	0.00	111 184	79				
8N/ 8E-29K 1 M 9-23-64 5050		--	8.2	191	11 0.55 32	6 0.49 28	15 0.65 38	1 0.03 2	0	44 0.72 40	33 0.69 39	13 0.37 21	0.7 0.01 1	--	0.00	101 166	52				
9N/ 4E- 8L 1 M 9- 9-64 5050		--	8.8	770	15 0.75 9	40 3.29 41	90 3.91 43	2 0.05 1	18 0.60 7	236 3.87 47	78 1.62 20	70 1.97 24	6.1 0.10 1	--	0.30	435 456	202				

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										Mineral constituents in milligrams per liter						
Date Sampled, Time	Agy. Coll.				Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- on SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>			
SACRAMENTO VALLEY SACRAMENTO COUNTY					52100	CENTRAL VALLEY REGION										50000					
9N/ 4E-27F 1 M 9- 9-64 5050		--	8.5	700	27 1.35 20	19 1.56 23	85 3.70 56	2 0.05 1	8 0.27 4	152 2.49 37	0 0 0	140 3.95 58	5.1 0.08 1	--	0.40	--	361 409	146			
9N/ 5E-21E 1 M 9- 9-64 5050		--	8.5	355	22 1.10 31	13 1.07 30	30 1.30 37	3 0.08 2	8 0.27 8	120 1.97 55	6 0.12 3	42 1.18 33	2.0 0.03 1	--	0.20	--	185 255	109			
9N/ 7E-32B 1 M 9-25-64 5050		--	9.4	145	11 0.55 36	8 0.66 44	7 0.30 20	0 0 0	20 0.67 44	40 0.66 43	5 0.10 7	3 0.08 5	1.2 0.02 1	--	0.00	--	75 117	61			
10N/ 6E-27L 0 M 9- 9-64 5050		--	8.6	520	36 1.80 54	9 0.74 22	18 0.78 23	1 0.03 1	8 0.27 6	143 2.34 68	0 0 0	28 0.79 23	1.5 0.02 1	--	0.00	--	172 246	127			

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter						Mineral constituents in milligrams per liter							
					Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Baron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>
SACRAMENTO VALLEY YOLO COUNTY					52100	52109	CENTRAL VALLEY REGION						50000					
6N/ 3E-25A 1 M 8-19-64 5050	75	9.0	512	--	--	96 4.17	--	21 0.70	195 3.20	--	28 0.79	--	--	1.00	--		59	
6N/ 3E-25A 2 M 8-19-64 5050	80	8.9	608	--	--	91 3.96	--	19 0.63	209 3.43	--	57 1.61	--	--	1.00	--		114	
7N/ 3E- 9J 1 M 8-12-64 5050	76	8.8	815	53 2.64 28	54 4.44 47	56 2.43 25	1 0.03	31 1.03 11	368 6.03 65	30 0.62 7	40 1.13 12	30.0 0.48 5	--	0.60	--	477 502	354	
7N/ 3E-31M 1 M 8-12-64 5050	73	9.1	846	--	--	77 3.35	--	54 1.80	406 6.65	--	24 0.68	--	--	1.10	--		336	
8N/ 1W-13G 1 M 8- 6-64 5050	71	8.4	566	30 1.50 24	31 2.55 41	48 2.09 34	1 0.03	4 0.13 2	270 4.43 72	30 0.62 10	29 0.82 13	8.1 0.13 2	--	0.40	--	314 356	203	
8N/ 2E-13F 2 M 8-11-64 5050	75	8.8	673	--	--	47 2.04	--	26 0.87	327 5.36	--	20 0.56	--	--	--	--		283	
8N/ 3E- 5P 1 M 8-19-64 5050	70	9.0	741	--	--	86 3.74	--	37 1.23	267 4.38	--	44 1.24	--	--	1.10	--		212	
8N/ 3E-19D 1 M 8-12-64 5050	68	8.5	1310	25 1.25 8	125 10.28 65	95 4.13 26	2 0.05	16 0.53 3	576 9.44 60	150 3.12 20	80 2.26 14	20.0 0.32 2	--	0.80	--	797 851	577	
8N/ 3E-19M 2 M 8-12-64 5050	77	9.1	1520	--	--	154 6.70	--	108 3.60	576 9.44	--	72 2.03	--	--	1.80	--		588	

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter					
					equivalents per million percent reactance value								TDS Computed					
Date Sampled Time	Agy. Coll.	Ca	Mg	Na	K	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	F	B	SiO <sub>2</sub>	Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>			
SACRAMENTO VALLEY YOLO COUNTY					52100	CENTRAL VALLEY REGION										50000		
8N/ 4E- 3B 1 M 8-12-64 5050		--	--	64 2.78	--	9 0.30	155 2.54	--	172 4.85	--	--	--	--	--	238			
9N/ 1E-12A 1 M 8- 6-64 5050		--	--	67 2.91	--	37 1.23	201 3.29	--	81 2.28	--	--	1.50	--	--	248			
9N/ 1W-16H 1 M 8- 6-64 5050		--	--	106 4.61	--	12 0.40	180 2.95	--	98 2.76	--	--	0.80	--	--	149			
9N/ 1W-30L 1 M 8- 6-64 5050		--	--	47 2.04	--	10 0.33	142 2.33	--	87 2.45	--	--	0.40	--	--	213			
9N/ 2E- 4L 1 M 8-10-64 5050		32 1.60 24	35 2.88 44	48 2.09 32	2 0.05 1	8 0.27 4	280 4.59 68	24 0.50 7	48 1.35 20	4.5 0.07 1	--	1.70	--	341 370	224			
9N/ 2E-10D 1 M 8-11-64 5050		28 1.40 20	43 3.54 50	48 2.09 30	2 0.05 1	4 0.13 2	296 4.85 69	24 0.50 7	50 1.41 20	7.7 0.12 2	--	1.70	--	354 395	247			
9N/ 3E- 7D 2 M 8-10-64 5050		25 1.25 21	29 2.38 39	55 2.39 39	2 0.05 1	12 0.40 6	268 4.39 68	30 0.62 10	35 0.99 15	0.8 0.01	--	1.70	--	322 350	182			
9N/ 4E-33L 1 M 8-12-64 5050		94 4.69 28	35 2.88 17	212 9.22 55	1 0.03	4 0.13 1	216 3.54 21	5 0.10 1	475 13.40 78	0.6 0.01	--	1.40	--	934 1250	379			
10N/ 1E- 1C 1 M 8-11-64 5050		--	--	49 2.13	--	17 0.57	237 3.88	--	64 1.80	--	--	1.80	--	--	238			

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										Mineral constituents in milligrams per liter					
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Baron B	Sili-ca SiO <sub>2</sub>	IDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>		
SACRAMENTO VALLEY YOLO COUNTY					52100	CENTRAL VALLEY REGION										50000				
					52109 (CONTINUED)															
10N/ 1E-15G 1 M 8- 6-64 5050		78	8.6	1090	52 2.59 22	65 5.35 45	93 4.04 34	1 0.03	20 0.67 5	396 6.49 53	133 2.77 23	77 2.17 18	8.7 0.14 1	--	1.10	--	646 671	397		
10N/ 1E-26A 1 M 8- 6-64 5050		69	8.9	554	--	--	42 1.83	--	14 0.47	196 3.21	--	44 1.24	--	--	1.60	--	--	181		
10N/ 2E- 1Q 1 M 8-10-64 5050		73	8.3	2280	--	--	119 5.17	--	0	87 1.43	--	542 15.28	--	--	3.30	--	--	859		
10N/ 2E-18L 1 M 8- 4-64 5050		80	8.3	1370	--	--	129 5.61	--	0	394 6.46	--	104 2.93	--	--	1.60	--	--	412		
10N/ 1W- 4D 1 M 8- 4-64 5050		72	8.7	542	--	--	44 1.91	--	20 0.67	257 4.21	--	19 0.54	--	--	--	--	--	200		
10N/ 2W- 1M 1 M 8- 4-64 5050		72	8.6	481	27 1.35 26	26 2.14 41	40 1.74 33	1 0.03 1	10 0.33 6	266 4.36 81	17 0.35 6	8 0.23 4	7.2 0.12 2	--	0.20	--	267 291	175		
10N/ 2W-16L 1 M 8- 4-64 5050		75	8.0	1830	76 3.79 20	89 7.32 39	169 7.35 40	3 0.08	0	512 8.39 45	86 1.79 10	300 8.46 45	9.2 0.15 1	--	2.30	--	986 1080	556		
10N/ 2W-17J 2 M 8- 4-64 5050		84	8.8	838	--	--	118 5.13	--	18 0.60	267 4.38	--	78 2.20	--	--	--	--	--	118		
10N/ 2W-18F 1 M 8- 4-64 5050		82	8.7	2010	--	--	270 11.74	--	27 0.90	440 7.21	--	454 12.80	--	--	1.10	--	--	410		

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (microhmhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter									
Date Sampled Time	Agy. Coll.				Calcium	Magne- sium	Sodium	Potas- sium	Carbon- ate	Bicar- bonate	Sulfate	Chlo- ride	Ni- trate	Fluo- ride	Boron	Sili- ca	TDS Computed	TOTAL hardness as CaCO 3				
					Ca	Mg	Na	K	CO 3	HCO 3	SO 4	Cl	NO 3	F	B	SiO 2	Evap 180° C					
SACRAMENTO VALLEY YOLO COUNTY					52100	CENTRAL VALLEY REGION																
10N/ 2W-18F 2 M 8- 4-64 5050		80	8.5	1330	--	--	142 6.17	--	10 0.33	171 2.80	--	349 9.84	--	--	1.50	--		336				
10N/ 2W-23A 1 M 8- 4-64 5050		78	8.8	514	--	--	38 1.65	--	19 0.63	253 4.15	--	12 0.34	--	--	--	--	199					
11N/ 1E- 4R 1 M 8-10-64 5050		72	9.2	1030	--	--	141 6.13	--	62 2.07	448 7.34	--	32 0.90	--	--	4.00	--	263					
11N/ 2E-22A 1 M 8-10-64 5050		80	8.9	1660	--	--	224 9.74	--	58 1.93	423 6.93	--	194 5.47	--	--	6.80	--	392					
11N/ 2E-32G 0 M 8-11-64 5050		68	8.7	663	19 0.95 14	43 3.54 51	54 2.35 34	2 0.05 1	20 0.67 10	260 4.26 61	26 0.54 8	51 1.44 21	6.4 0.10 1	--	1.70	--	351 377	225				
11N/ 2W-35J 1 M 8- 4-64 5050		76	8.5	543	--	--	40 1.74	--	10 0.33	269 4.41	--	12 0.34	--	--	--	--	214					
11N/ 3W- 9Q 1 M 8- 4-64 5050		78	8.0	1000	88 4.39 42	50 4.11 39	46 2.00 19	1 0.03	0	376 6.16 59	55 1.15 11	105 2.96 29	7.0 0.11 1	--	0.20	--	537 647	425				
11N/ 3W-10E 2 M 8- 4-64 5050		73	8.9	807	--	--	121 5.26	--	21 0.70	256 4.20	--	66 1.86	--	--	3.00	--	153					
11N/ 3W-26M 3 M 8- 3-64 5050		69	8.6	658	--	--	14 0.61	--	12 0.40	197 3.23	--	72 2.03	--	--	1.10	--	230					

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter							
					Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>		
SACRAMENTO VALLEY YOLO COUNTY					52100	CENTRAL VALLEY REGION								50000						
12N/ 1W-15N 2 M 8-10-64 5050		84	8.2	529	--	--	21 0.91	--	0	242 3.97	--	26 0.73	--	--	--	--		234		
12N/ 2W- 2A 1 M 8-10-64 5050		76	8.3	813	--	--	67 2.91	--	0	325 5.33	--	89 2.51	--	--	--	--		280		
SOLANO COUNTY					52111															
4N/ 3E-31F 2 M 5-22-64 5050		--	8.4	862	--	--	148 6.44	--	3 0.10	363 5.95	--	73 2.06	--	--	--	--		124		
5N/ 2E-25K 0 M 5-22-64 5050		--	8.5	1500	--	--	258 11.22	--	19 0.63	933 15.29	--	21 0.59	--	--	--	--		333		
6N/ 1E-19L 2 M 5-21-64 5050		--	7.8	702	--	--	56 2.43	--	0	308 5.05	--	30 0.85	--	--	--	--		250		
6N/ 1E-19Q 1 M 5-22-64 5050		--	7.6	764	--	--	60 2.61	--	0	303 4.97	--	44 1.24	--	--	--	--		270		
6N/ 1W- 1B 4 M 5-21-64 5050		67	8.2	499	39 1.95 37	17 1.40 27	42 1.83 35	1 0.03 1	0	237 3.88 77	10 0.21 4	22 0.62 12	19.0 0.31 6	--	0.00	--	267 318	168		
6N/ 1W-23L 1 M 5-21-64 5050		67	8.0	570	--	--	43 1.87	--	0	276 4.52	--	14 0.39	--	--	--	--		204		

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled ° F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										Mineral constituents in milligrams per liter					
					Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>		
SACRAMENTO VALLEY SOLANO COUNTY					52100	CENTRAL VALLEY REGION														
7N/ 1E-36C 1 M 6-24-64 5050					1000	34 1.70 15	84 6.91 59	69 3.00 26	1 0.03	12 0.40 4	484 7.93 70	64 1.33 12	54 1.52 13	14.0 0.23 2	--	0.40	--	570 560	431	
7N/ 2E- 2D 1 M 5-21-64 5050					948	--	--	53 2.30	--	0	576 9.44	--	24 0.68	--	--	--	--		437	
7N/ 2E-34C 2 M 5-21-64 5050					779	--	--	44 1.91	--	0	428 7.01	--	26 0.73	--	--	--	--		345	
8N/ 1E-26F 1 M 5-21-64 5050					732	--	--	41 1.78	--	0	399 6.54	--	16 0.45	--	--	--	--		322	

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE B-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter				
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>				
SAN JOAQUIN VALLEY					52200	CENTRAL VALLEY REGION										50000						
1N/ 4E-3N 1 M 6-30-64 5050		64	8.7	1240	--	186 8.09	--	34 1.13	435 7.13	--	162 4.57	--	--	--	--	212						
1N/ 6E-4D 1 M 7-16-64 5050		72	8.4	392	6 0.30 8	10 0.82 21	62 2.70 71	0 0.07 2	173 2.84 73	3 0.06 2	32 0.90 23	1.1 0.02 1	--	0.20	201 268	56						
1N/ 6E-10P 1 M 7-31-64 5050		73	7.6	2980	125 6.24 23	49 4.03 15	384 16.70 62	1 0.03	0 0.07 2	154 2.52 9	1 0.02	867 24.45 91	0.9 0.01	0.90	1505 1860	514						
1N/ 7E-11J 1 M 7-23-64 5050		67	8.0	261	--	--	15 0.65	0	127 2.08	--	10 0.28	--	--	--	--	94						
1N/ 9E-18G 1 M 7-16-64 5050		68	8.2	205	--	--	11 0.48	0	85 1.39	--	10 0.28	--	--	--	--	66						
2N/ 6E-27L 1 M 7-3-64 5050		66	8.4	349	--	--	29 1.26	4 0.13	176 2.88	--	10 0.28	--	--	--	--	110						
2N/ 7E-14N 1 M 7-3-64 5050		66	8.2	402	35 1.75 42	20 1.64 39	17 0.74 18	0 0.03 1	226 3.70 90	4 0.08 2	10 0.28 7	4.1 0.07 2	--	0.00	202 269	170						
2N/ 8E-15L 1 M 7-16-64 5050		67	8.2	224	--	--	9 0.39	0	120 1.97	--	5 0.14	--	--	--	--	85						
2N/ 9E-7G 1 M 7-16-64 5050		62	8.1	268	--	--	9 0.39	0	130 2.13	--	8 0.23	--	--	--	--	110						

TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter										
Date Sampled Time	Agy. Coll.				Calcium	Magne-sium	Sodium	Potas-sium	Carbon-ate	Bicar-bonate	Sulfate	Chlo-ride	Ni-trate	Fluo-ride	Boron	Sili-ca	TDS Computed	TOTAL hardness as CaCO 3					
					Ca	Mg	Na	K	CO 3	HCO 3	SO 4	Cl	NO 3	F	B	SiO 2	Evap 100° C						
SAN JOAQUIN VALLEY					52200	CENTRAL VALLEY REGION													50000				
(CONTINUED)																							
3N/ 7E-11G 1 M 7- 3-64 5050		68	8.2	333	25 1.25 40	12 0.99 32	20 0.87 28	0	0	129 2.11 68	12 0.25 8	19 0.54 17	12.0 0.19 6	--	0.00	--	163 248	112					
3N/ 8E- 8E 1 M 7- 3-64 5050		69	8.0	175	11 0.55 34	5 0.41 26	14 0.61 38	1 0.03 2	0	75 1.23 75	1 0.02 1	9 0.25 15	7.8 0.13 8	--	0.00	--	86 141	48					
4N/ 4E-14C 1 M 7- 3-64 5050		72	8.4	1030	--	--	178 7.74	--	7 0.23	213 3.49	--	212 5.98	--	--	--	--	--	62					
4N/ 5E- 8H 1 M 7- 3-64 5050		66	8.0	--	--	--	480 20.87	--	0	337 5.52	--	1960 55.27	--	--	--	--	--	1960					
4N/ 6E-11P 1 M 7- 3-64 5050		72	8.1	228	--	--	10 0.43	--	0	122 2.00	--	7 0.20	--	--	--	--	--	88					
4N/ 7E-23B 3 M 7- 3-64 5050		68	8.1	432	33 1.65 42	17 1.40 35	21 0.91 23	0	0	166 2.72 66	1 0.02	43 1.21 29	12.0 0.19 5	--	0.00	--	209 302	153					
5N/ 5E-33J 1 M 7- 3-64 5050		62	8.0	332	--	--	52 2.26	--	0	197 3.23	--	9 0.25	--	--	--	--	--	52					
5N/ 8E-31J 1 M 7- 3-64 5050		71	8.0	188	--	--	12 0.52	--	0	89 1.46	--	6 0.17	--	--	--	--	--	60					
1S/ 4E-14M 1 M 6-30-64 5050		66	8.4	1500	--	--	237 10.30	--	7 0.23	244 4.00	--	200 5.64	--	--	--	--	--	166					

DWR 1982



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter						
					Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- con SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>						
SAN JOAQUIN VALLEY					52200	CENTRAL VALLEY REGION (CONTINUED)								50000										
1S/ 5E-10H 2 M 6-30-64 5050		65	8.5	1150	44 2.20 21	46 3.78 35	108 4.70 44	0	10 0.33 3	235 3.85 36	59 1.23 11	191 5.39 50	0.6 0.01	0.20	--	574 703	299							
1S/ 6E- 4A 1 M 7-23-64 5050		68	8.3	1990	--	--	139 6.04	--	0	178 2.92	--	540 15.23	--	--	--	--	602							
1S/ 7E-10A 1 M 7-16-64 5050		66	8.3	263	--	--	20 0.87	--	0	129 2.11	--	11 0.31	--	--	--	--	88							
1S/ 9E- 8H 1 M 7-23-64 5050		70	8.1	216	--	--	15 0.65	--	0	88 1.44	--	11 0.31	--	--	--	--	69							
2S/ 4E- 1P 1 M 6-30-64 5050		68	8.2	638	--	--	87 3.78	--	0	106 1.74	--	50 1.41	--	--	--	--	104							
2S/ 5E-22Q 1 M 7-23-64 5050		68	8.0	1510	--	--	148 6.44	--	0	224 3.67	--	261 7.36	--	--	--	--	422							
2S/ 5E-23P 1 M 6-30-64 5050		64	8.1	1960	--	--	192 8.35	--	0	237 3.88	--	363 10.24	--	--	--	--	546							
2S/ 5E-29D 1 M 6-30-64 5050		65	8.2	1860	--	--	186 8.09	--	0	277 4.54	--	322 9.08	--	--	--	--	521							
2S/ 6E-20J 5 M 7-23-64 5050		69	8.3	1610	66 3.29 22	34 2.80 19	198 8.61 59	0	0	167 2.74 18	145 3.02 20	323 9.11 61	2.1 0.03	0.70	--	851 975	305							

DWR 1982

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter				
					Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- ca SiO <sub>2</sub>	IDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>				
SAN JOAQUIN VALLEY					52200	CENTRAL VALLEY REGION (CONTINUED)								50000								
2S/ 7E-20R 1 M 7-23-64 5050		68	8.5	504	--	--	29 1.26	--	7 0.23	198 3.25	--	20 0.56	--	--	--	--		192				
3S/ 5E- 8L 1 M 6-30-64 5050		74	8.1	846	--	--	71 3.09	--	0	155 2.54	--	94 2.65	--	--	--	--		244				
3S/ 5E-14D 1 M 6-30-64 5050		68	8.2	1340	--	--	125 5.44	--	0	132 2.16	--	215 6.06	--	--	--	--		361				
3S/ 5E-24F 1 M 6-30-64 5050		71	8.3	1350	87 4.34 33	53 4.36 33	103 4.48 34	0	0	184 3.02 22	348 7.25 53	101 2.85 21	40.0 0.65 5	0.90	--	--	823 936	435				
3S/ 5E-26M 0 M 7-23-64 5050		75	8.2	1310	--	--	114 4.96	--	0	222 3.64	--	77 2.17	--	--	--	--		435				
3S/ 5E-35B 1 M 7-23-64 5050		74	8.2	1360	65 3.24 23	59 4.85 35	137 5.96 42	0	0	217 3.56 26	394 8.20 59	63 1.78 13	23.0 0.37 3	0.90	--	--	849 764	405				
3S/ 6E- 7F 1 M 6-30-64 5050		65	8.1	1760	--	--	220 9.57	--	0	198 3.25	--	308 8.69	--	--	--	--		358				
3S/ 6E-22Q 1 M 6-30-64 5050		72	8.3	647	--	--	63 2.74	--	0	167 2.74	--	34 0.96	--	--	--	--		171				

DWS 1963



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter					
					Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>					
SURPRISE VALLEY					60100	LAHONTAN REGION								60000									
40N/16E-11G 1 M 7-15-64 5050		--	8.2	212	--	--	13 0.57	--	0	132 2.16	--	0	--	--	--	--	--	84					
40N/16E-13R 1 M 7-15-64 5050		55	8.3	222	26 1.30 55	6 0.49 21	11 0.48 20	4 0.10 4	0	135 2.21 95	2 0.04 2	1 0.03 1	2.7 0.04 2	--	0.00	--	119 148	90					
40N/16E-36F 1 M 7-15-64 5050		--	8.0	298	28 1.40 45	9 0.74 24	21 0.91 29	2 0.05 2	0	167 2.74 91	8 0.17 6	1 0.03 1	5.0 0.08 3	--	0.00	--	156 188	107					
40N/17E-20C 1 M 7-15-64 5050		57	8.3	374	26 1.30 36	5 0.41 11	40 1.74 48	6 0.15 4	0	140 2.29 62	36 0.75 20	22 0.62 17	0.6 0.01	--	0.10	--	205 250	86					
41N/16E-25C 3 M 7-15-64 5050		58	8.2	186	6 0.30 16	1 0.08 4	34 1.48 77	2 0.05 3	0	83 1.36 74	17 0.35 19	4 0.11 6	0.6 0.01 1	--	0.20	--	106 148	19					
41N/16E-35D 2 M 7-15-64 5050		58	7.9	286	26 1.30 43	13 1.07 35	14 0.61 20	2 0.05 2	0	171 2.80 95	4 0.08 3	1 0.03 1	2.6 0.04 1	--	0.00	--	147 179	119					
42N/16E- 6R 2 M 7-15-64 5050		--	7.7	325	--	--	13 0.57	--	0	189 2.93	--	1 0.03	--	--	--	--	143						
42N/16E-21L 1 M 7-15-64 5050		--	8.2	232	--	--	22 0.96	--	0	141 2.19	--	1 0.03	--	--	--	--	76						
42N/16E-34F 1 M 7-15-64 5050		--	8.2	338	--	--	57 2.48	--	0	211 7.26	--	1 0.03	--	--	--	--	53						

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter						
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili- ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>	
SURPRISE VALLEY					60100	LAHONTAN REGION (CONTINUED)													
43N/16E-20B 1 M 7-15-64 5050		--	8.5	283	--	--	59 2.56	--	4 0.13	152 2.26	--	2 0.07	--	--	--	--	17		
43N/16E-33M 3 M 7-15-64 5050		--	8.2	425	--	--	28 1.22	--	0	238 7.83	--	4 0.13	--	--	--	--	167		
44N/16E- 6E 2 M 7-15-64 5050		77	8.3	678	--	--	150 6.52	--	0	281 8.28	--	73 1.83	--	0.8	5.70	--	12		
45N/16E-17D 1 M 7-15-64 5050		--	7.7	282	--	--	10 0.43	--	0	167 3.12	--	2 0.07	--	--	--	--	123		
45N/16E-19Q 1 M 7-15-64 5050		--	8.2	326	42 2.10 63	0	27 1.17 35	3 0.08 2	0	187 3.06 93	7 0.15 5	3 0.08 2	0.3	--	0.10	--	174 199	105	
HONEY LAKE VALLEY					60400														
26N/15E- 3F 1 M 7- 8-64 5050		67	8.1	209	17 0.85 40	5 0.41 19	18 0.78 37	3 0.08 4	0	107 1.75 82	14 0.29 14	3 0.08 4	0.4 0.01	--	0.00	--	113 133	63	
27N/14E-26E 1 M 7- 8-64 5050		--	6.6	192	--	--	17 0.74	--	0	68 1.47	--	7 0.18	--	--	--	--	53		
28N/13E- 9E 1 M 7- 8-64 5050		--	6.9	209	--	--	9 0.39	--	0	94 1.15	--	4 0.13	--	--	--	--	84		
28N/14E-17B 1 M 7- 8-64 5050		--	8.0	420	30 1.50 34	12 0.99 22	44 1.91 43	2 0.05 1	0	243 3.98 90	12 0.25 6	5 0.14 3	1.6 0.03 1	--	0.10	--	226 250	125	

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1  
MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter						
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>	
HONEY LAKE VALLEY					60400	LAHONTAN REGION (CONTINUED)								60000					
28N/17E-18K 1 M 7- 7-64 5050		62	8.4	265	--	--	43 1.87	--	2 0.07	100 1.64	--	13 0.35	--	--	--	--	27		
29N/12E-15A 1 M 7- 7-64 5050		--	7.7	212	--	--	13 0.57	--	0	122 2.42	--	4 0.13	--	--	--	--	80		
29N/13E- 1N 1 M 7- 7-64 5050		--	8.2	564	--	--	114 4.96	--	0	164 2.69	--	23 0.65	--	--	--	--	14		
29N/13E-14G 1 M 7- 7-64 5050		--	7.7	576	10 0.50	6 0.49	103 4.48	4 0.10	0	196 3.21	26 0.54	25 0.71	37.0 0.60	--	0.20	--	50		
29N/13E-34N 1 M 7- 8-64 5050		--	7.2	166	14 0.70	6 0.49	9 0.39	1 0.03	0	70 1.15	3 0.06	2 0.06	20.0 0.32	--	0.00	--	60		
29N/14E- 4N 1 M 7- 7-64 5050		--	8.1	795	--	--	148 6.44	--	0	357 6.94	--	25 0.84	--	--	--	--	56		
29N/14E-13R 1 M 7- 7-64 5050		--	8.2	1060	--	--	206 8.97	--	0	351 6.83	--	27 0.90	--	--	--	--	94		
29N/14E-19A 2 M 7- 7-64 5050		--	8.1	1830	20 1.00	10 0.82	377 16.39	16 0.41	0	481 7.88	426 8.87	31 0.87	41.0 0.66	--	2.90	--	91		
29N/15E-21H 1 M 7- 7-64 5050		63	8.3	892	--	--	178 7.74	--	--	463 6.76	--	58 1.32	--	--	--	--	47		

MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled ° F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter						
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Baron B	Sili-ca SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>	
HONEY LAKE VALLEY					60400	LAHONTAN REGION (CONTINUED)													
29N/15E-30A 2 M 7- 7-64 5050		--	8.3	604	--	--	125 5.44	--	0	376 7.67	--	8 0.17	--	--	--	--	45		
30N/12E-33N 2 M 7- 8-64 5050		64	7.9	199	--	--	8 0.35	--	0	120 2.35	--	3 0.06	--	--	--	--	90		

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter							
					Calcium	Magne-sium	Sodium	Potas-sium	Carbon-ate	Bicar-bonate	Sulfate	Chlo-ride	Ni-trate	Fluo-ride	Boron	Sili-ca	TDS Computed	TOTAL hardness as CaCO 3		
Date Sampled Time	Agy. Coll.				Ca	Mg	Na	K	CO 3	HCO 3	SO 4	Cl	NO 3	F	B	SiO 2	Evap 180° C			
TAHOE VALLEY					60500	LAHONTAN REGION														
SOUTH TAHOE VALLEY						60501														
12N/18E- 5L 1 M 9-17-64 5050		--	7.6	97	9 0.45 45	3 0.25 25	6 0.26 26	1 0.03 3	0	59 0.97 97	1 0.02 2	0	0.7 0.01 1	--	0.00	--	50 90	35		
12N/18E- 5P 1 M 9-17-64 5050		--	7.8	84	5 0.25 27	1 0.08 9	13 0.57 61	1 0.03 3	0	49 0.80 94	1 0.02 2	1 0.03 4	0.3	--	0.00	--	46 64	17		
12N/18E-29L 1 M 9-17-64 5050		--	7.7	77	7 0.35 46	1 0.08 11	7 0.30 39	1 0.03 4	0	41 0.67 88	3 0.06 8	1 0.03 4	0.0	--	0.00	--	40 60	22		

# MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter												
					equivalents per million percent reactance value																				
Date Sampled Time	Agy. Coll.				Calcium Ca	Magne-sium Mg	Sodium Na	Potas-sium K	Carbon-ate CO <sub>3</sub>	Bicar-bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo-ride Cl	Ni-trate NO <sub>3</sub>	Fluo-ride F	Boron B	Sili-con SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>							
TAHOE VALLEY					60500	LAHONTAN REGION																			
NORTH TAHOE VALLEY						60502																			
14N/16E- 1C 1 M 9-21-64 5050		--	8.1	151	17 0.85 53	6 0.49 31	5 0.22 14	1 0.03 2	0	93 1.52 96	0	2 0.06 4	0.2	--	0.00	--	77 107	67							
14N/16E- 1K 1 M 9-21-64 5050		--	7.9	128	14 0.70 53	5 0.41 31	4 0.17 13	1 0.03 2	0	82 1.34 94	0	3 0.08 6	0.2	--	0.00	--	68 98	56							
14N/17E- 8N 1 M 9-21-64 5050		--	7.7	118	16 0.80 68	1 0.08 7	6 0.26 22	1 0.03 3	0	65 1.07 90	0	3 0.08 7	2.3 0.04 3	--	0.00	--	61 92	44							
15N/16E-24A 1 M 9-21-64 5050		--	8.1	169	19 0.95 56	7 0.58 34	3 0.13 8	1 0.03 2	0	94 1.54 92	1 0.02 1	3 0.08 5	2.7 0.04 2	--	0.00	--	83 104	77							
15N/16E-25C 1 M 9-21-64 5050		--	7.8	139	16 0.80 60	4 0.33 25	4 0.17 13	1 0.03 2	0	72 1.18 87	2 0.04 3	2 0.06 4	5.1 0.08 6	--	0.00	--	70 102	57							
15N/17E- 6J 1 M 9-21-64 5050		--	8.2	175	15 0.75 42	9 0.74 41	5 0.22 12	3 0.08 4	0	106 1.74 95	0	2 0.06 3	2.0 0.03 2	--	0.00	--	88 113	75							
15N/17E- 7E 1 M 9-21-64 5050		--	7.5	168	13 0.65 45	6 0.49 34	6 0.26 18	2 0.05 3	0	46 0.75 50	1 0.02 1	24 0.68 46	2.4 0.04 3	--	0.00	--	77 123	57							
16N/16E-28E 1 M 9-21-64 5050		50	4.6	270	27 1.35 70	3 0.25 13	7 0.30 16	1 0.03 2	0	3 0.05 2	88 1.83 80	14 0.39 17	1.9 0.03 1	--	0.00	--	143 199	80							
16N/16E-32D 1 M 9-21-64 5050		--	8.1	224	33 1.65 75	3 0.25 11	6 0.26 12	1 0.03 1	0	79 1.29 61	28 0.58 27	7 0.20 9	3.0 0.05 2	--	0.00	--	120 126	95							

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter								Mineral constituents in milligrams per liter				
					equivalents per million percent reactance value								TDS Computed				
Date Sampled Time	Agy. Coll.	Ca	Mg	Na	K	Carbonate	Bicarbonate	Sulfate	Chloride	Nitrate	Fluoride	Boron	Silica	TDS Computed	TOTAL hardness as CaCO <sub>3</sub>		
TAHOE VALLEY NORTH TAHOE VALLEY		60000															
16N/17E-13H 1 M	9-21-64 5050	8	8	3	1	0	68	1	2	2.8	--	0.00	--	59	53		
		0.40	0.66	0.13	0.03		1.11	0.02	0.06	0.05				75			
		33	54	11	2		90	2	5	4							
16N/17E-14B 1 M	9-21-64 5050	26	9	10	4	0	138	0	7	8.0	--	0.00	--	132	102		
		1.30	0.74	0.43	0.10		2.26		0.20	0.13				174			
		51	29	17	4		87		8	5							
16N/17E-14C 1 M	9-21-64 5050	28	11	10	5	0	159	1	4	5.1	--	0.00	--	142	115		
		1.40	0.90	0.43	0.13		2.61	0.02	0.11	0.08				169			
		49	31	15	5		93	1	4	3							
16N/18E-30B 1 M	9-21-64 5050	7	0	114	4	16	51	37	116	2.2	--	2.70	--	324	18		
		0.35		4.96	0.10	0.53	0.84	0.77	3.27	0.04				402			
		6		92	2	10	15	14	60	1							
CARSON VALLEY		60600															
11N/19E-24B 1 M	9-17-64 5050	13	4	9	2	0	78	1	1	5.7	0.0	--	--	74	49		
		0.65	0.33	0.39	0.05		1.28	0.02	0.03	0.09				97			
		46	23	27	4		90	1	2	6							
11N/19E-35D 2 M	9-17-64 5050	12	2	8	2	0	64	8	0	0.2	--	0.00	--	64	38		
		0.60	0.16	0.35	0.05		1.05	0.17						94			
		52	14	30	4		86	14									
11N/19E-35K 1 M	9-17-64 5050	8	2	6	1	0	46	3	0	0.2	--	0.00	--	43	28		
		0.40	0.16	0.26	0.03		0.75	0.06						78			
		47	19	31	4		93	7									
11N/20E-7M 1 M	9-17-64 5050	12	2	7	2	0	51	3	3	10.0	--	0.00	--	64	38		
		0.60	0.16	0.30	0.05		0.84	0.06	0.08	0.16				88			
		54	14	27	5		74	5	7	14							

DWR 1982

STATE OF CALIFORNIA - THE RESOURCES AGENCY - DEPARTMENT OF WATER RESOURCES

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (microhmhos at 25°C)	Mineral Constituents in milligrams per liter						milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter					
					Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>			
TOPAZ VALLEY					60700	LAHONTAN REGION						60000									
8N/23E-16P 1 M 9-17-64 5050		--	8.3	251	20 1.00 38	8 0.66 25	21 0.91 34	3 0.08 3	0	141 2.31 88	8 0.17 6	3 0.08 3	4.0 0.06 2	--	0.00	--	136 157	83			
8N/23E-28E 3 M 9-17-64 5050		--	8.1	282	18 0.90 34	2 0.16 6	35 1.52 58	1 0.03 1	0	80 1.31 50	43 0.90 34	14 0.39 15	1.1 0.02 1	--	0.20	--	154 183	53			
8N/23E-29C 2 M 9-17-64 5050		--	7.5	125	11 0.55 43	4 0.33 26	8 0.35 27	2 0.05 4	0	70 1.15 88	4 0.08 6	2 0.06 5	0.5 0.01 1	--	0.00	--	66 78	44			
9N/22E-24D 1 M 9-17-64 5050		--	7.8	143	11 0.55 12	42 3.45 75	13 0.57 12	2 0.05 1	0	77 1.26 88	5 0.10 7	3 0.08 6	0.0	--	0.10	--	114 99	200			
9N/22E-24M 1 M 9-17-64 5050		--	8.2	216	20 1.00 45	6 0.49 22	16 0.70 31	2 0.05 2	0	115 1.88 86	10 0.21 10	3 0.08 4	1.4 0.02 1	--	0.00	--	115 143	75			
9N/23E-20P 1 M 9-17-64 5050		--	8.2	255	28 1.40 51	7 0.58 21	17 0.74 .27	2 0.05 2	0	137 2.25 84	7 0.15 6	4 0.11 4	11.0 0.18 7	--	0.10	--	143 172	99			
9N/23E-30C 2 M 9-17-64 5050		--	8.2	342	12 0.60 21	2 0.16 6	47 2.04 71	3 0.08 3	0	89 1.46 49	19 0.40 14	39 1.10 37	0.2	--	1.70	--	168 204	38			
9N/23E-32A 1 M 9-17-64 5050		--	8.3	313	13 0.65 21	4 0.33 11	46 2.00 66	2 0.05 2	0	164 2.69 89	10 0.21 7	4 0.11 4	0.8 0.01	--	0.20	--	161 186	49			

DWR 1982



TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter					milligrams per liter equivalents per million percent reactance value					Mineral constituents in milligrams per liter					
					Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>		
BRIDGEPORT VALLEY					60800	LAHONTAN REGION					60000									
4N/24E-4A 1 M	9-18-64 5050	--	8.7	1470	20	5	284	20	13	389	348	31	0.3	--	0.70	--	913	71		
					1.00	0.41	12.35	0.51	0.43	6.38	7.25	0.87					987			
					7	3	87	4	3	43	49	6								
4N/25E-4B 1 M	9-18-64 5050	--	7.3	835	56	22	77	14	0	190	242	21	0.7	--	0.20	--	526	230		
					2.79	1.81	3.35	0.36		3.11	5.04	0.59	0.01				608			
					34	22	40	4		36	58	7								
4N/25E-4F 1 M	9-18-64 5050	--	7.1	3020	105	30	560	42	0	1100	585	126	0.0	--	3.50	--	1992	386		
					5.24	2.47	24.35	1.07		18.03	12.18	3.55					2090			
					16	7	73	3		53	36	11								
5N/25E-25G 1 M	9-18-64 5050	--	7.0	127	14	4	5	2	0	73	6	0	0.1	--	0.00	--	67	52		
					0.70	0.33	0.22	0.05		1.20	0.12						80			
					54	25	17	4		91	9									
5N/25E-28K 1 M	9-18-64 5050	--	8.0	450	36	14	30	11	0	228	34	6	0.8	--	0.00	--	244	148		
					1.80	1.15	1.30	0.28		3.74	0.71	0.17	0.01				281			
					40	25	29	6		81	15	4								
5N/25E-28Q 1 M	9-18-64 5050	--	7.8	382	29	12	26	10	0	194	26	5	0.8	--	0.00	--	204	122		
					1.45	0.99	1.13	0.26		3.18	0.54	0.14	0.01				247			
					38	26	30	7		82	14	4								
9N/24E-13E 1 M	9-18-64 5050	--	7.7	107	12	3	4	2	0	56	5	0	0.5	--	0.00	--	54	43		
					0.60	0.25	0.17	0.05		0.92	0.10		0.01				75			
					56	23	16	5		89	10		1							
TRUCKEE VALLEY					66700															
17N/16E-8M 1 M	9-22-64 5050	48	8.1	129	14	6	4	1	0	82	0	0	0.7	--	0.00	--	66	60		
					0.70	0.49	0.17	0.03		1.34			0.01				97			
					50	35	12	2		99			1							
17N/16E-10M 0 M	9-22-64 5050	--	8.3	174	15	9	7	3	0	114	0	0	0.0	--	0.00	--	90	75		
					0.75	0.74	0.30	0.08		1.87							107			
					40	40	16	4		100										

DWR 1982

TABLE E-1

## MINERAL ANALYSES OF GROUND WATER

②

State Well Number		Temp. when Sampled °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral Constituents in milligrams per liter										Mineral constituents in milligrams per liter						
					Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- con SiO <sub>2</sub>	TDS Computed Evap 180° C	TOTAL hardness as CaCO <sub>3</sub>			
TRUCKEE VALLEY					66700	LAHONTAN REGION (CONTINUED)										60000					
17N/16E-14F 1 M 9-22-64 5050	--	8.1	127	14 0.70 52	6 0.49 36	3 0.13 10	1 0.03 2	0	81 1.33 99	0	0	0	0.7 0.01 1	--	0.00	--	65 92	60			
17N/16E-15G 1 M 9-22-64 5050	--	8.2	133	14 0.70 49	7 0.58 40	3 0.13 9	1 0.03 2	0	86 1.41 99	0	0	0	0.8 0.01 1	--	0.00	--	68 96	64			
17N/16E-16L 1 M 9-22-64 5050	--	8.1	187	24 1.20 64	5 0.41 22	5 0.22 12	2 0.05 3	0	91 1.49 81	1 0.02 1	11 0.31 17	1.4 0.02 1	--	0.00	--	94 135	81				
17N/16E-17F 1 M 9-22-64 5050	--	7.4	148	15 0.75 53	4 0.33 23	6 0.26 18	3 0.08 6	0	76 1.25 85	1 0.02 1	6 0.17 12	1.8 0.03 2	--	0.00	--	74 106	54				

DWR 1982





TABLE E-2

RADIOASSAYS OF GROUND WATER  
1964

Well Number (MDB&M)	Date Sampled	Micromicrocuries per liter	
		Gross Alpha	Gross Beta

CENTRAL VALLEY REGION (NO. 5)

UPPER LAKE VALLEY (5-13.00)

15N/9W-6F1	6/ 4/64	-0.32 $\pm$ 1.21	- 3.13 $\pm$ 12.28
15N/9W-7B	6/ 4/64	-1.39 $\pm$ 1.48	0.52 $\pm$ 12.61
15N/9W-31P1	6/ 4/64	-0.62 $\pm$ 0.36	1.32 $\pm$ 10.46
15N/10W-3C1	6/ 4/64	-1.03 $\pm$ 1.04	- 9.58 $\pm$ 11.68
15N/10W-3J1	6/ 4/64	-0.42 $\pm$ 1.92	1.05 $\pm$ 11.97
15N/10W-10E1	6/ 4/64	-1.67 $\pm$ 18.21	-11.92 $\pm$ 16.27
15N/10W-12K2	6/ 4/64	0.40 $\pm$ 1.23	- 3.33 $\pm$ 11.13
15N/10W-13A1	6/24/64	-0.38 $\pm$ 0.75	- 5.54 $\pm$ 11.15
16N/9W-31L3	6/24/64	-0.58 $\pm$ 1.03	5.67 $\pm$ 11.93

KELSEYVILLE VALLEY (5-15.00)

13N/9W-2K2	6/ 4/64	-1.49 $\pm$ 1.20	- 0.66 $\pm$ 12.33
13N/9W-3C1	6/ 4/64	-1.21 $\pm$ 0.51	14.18 $\pm$ 12.86
13N/9W-6C1	6/24/64	-1.86 $\pm$ 0.88	6.40 $\pm$ 13.48
13N/9W-8C1	6/11/64	-0.60 $\pm$ 2.26	-11.14 $\pm$ 13.38
13N/9W-8N1	6/11/64	-0.55 $\pm$ 1.40	- 6.77 $\pm$ 11.84
13N/9W-16D1	6/24/64	-0.41 $\pm$ 3.29	2.65 $\pm$ 15.27
13N/9W-16D2	6/24/64	0.15 $\pm$ 0.83	- 3.85 $\pm$ 9.59
13N/9W-22J1	6/24/64	-0.62 $\pm$ 0.38	- 4.39 $\pm$ 10.73
14N/9W-32J1	6/24/64	-1.21 $\pm$ 0.75	-25.32 $\pm$ 11.42
14N/9W-32J2	6/ 4/64	-1.59 $\pm$ 0.78	- 5.88 $\pm$ 12.75



TABLE E-2

## RADIOASSAYS OF GROUND WATER

1964

Well Number	Date Sampled	Micromicrocuries per liter			
		Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
CENTRAL VALLEY REGION (NO. 5)					
MOHAWK VALLEY (5-11.00)					
22N/12E-9Q1	8/25/64	-0.83 ± ---	-0.48 ± ---	3.68 ± 10.17	-4.31 ± ---
22N/13E-19N1	8/25/64	1.49 ± 1.64	3.08 ± 1.63	-0.21 ± ---	-1.30 ± ---
22N/14E-14F	8/25/64	0.06 ± 1.11	0.15 ± 0.81	-7.62 ± ---	5.54 ± 8.89
22N/15E-11F1	8/25/64	-1.05 ± ---	-3.16 ± ---	8.04 ± 10.36	-2.25 ± ---
22N/15E-12B1	8/25/64	-0.82 ± ---	0.82 ± 1.09	3.46 ± 8.40	2.27 ± 8.76
22N/15E-17C3	8/25/64	1.78 ± 2.58	0.00 ± ---	-4.00 ± ---	8.41 ± 9.21
22N/15E-26K2	8/25/64	2.00 ± 6.26	1.26 ± 1.09	3.23 ± 11.89	-1.83 ± ---
22N/16E-5N2	8/25/64	0.00 ± ---	0.30 ± 0.89	0.00 ± ---	2.46 ± 8.67
22N/16E-19E1	8/25/64	-0.81 ± ---	-0.30 ± ---	4.33 ± 10.40	7.13 ± 8.39
23N/13E-30R1		0.00 ± ---	0.37 ± 0.89	-0.76 ± ---	-1.62 ± ---
23N/14E-25G2	8/25/64	1.02 ± 2.03	0.15 ± 0.63	-6.40 ± ---	4.93 ± 8.41
23N/14E-35L1	8/25/64	0.89 ± ---	0.00 ± ---	9.62 ± 11.53	4.78 ± 9.01

TABLE E-2

## RADIOASSAYS OF GROUND WATER

1964

Well Number	Date Sampled	Micromicrocuries per liter			
		Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
MOHAWK VALLEY (5-11.00) - Continued					
23N/15E-28H4	8/25/64	-0.36 ±	-0.48 ±	-0.04 ±	0.98 ± 7.70
23N/15E-35C1	8/25/64	-0.59 ±	1.41 ± 1.21	1.60 ± 9.44	4.57 ± 8.89
SIERRA VALLEY (5-12.00)					
20N/14E-4G2	8/26/64	-1.14 ±	0.00 ±	4.09 ± 10.51	-3.77 ± ---
21N/14E-22L1	8/26/64	-0.10 ±	-0.08 ±	26.80 ± 12.50	2.30 ± 8.99
21N/14E-29J1	8/26/64	0.00 ±	-0.22 ±	-4.72 ±	25.91 ± 10.05
21N/14E-36K1	8/26/64	-0.11 ± 0.84	0.18 ± 0.81	-15.23 ± 11.27	-6.54 ± 8.40
21N/15E-5D1	8/26/64	1.33 ± 4.56	0.04 ± 0.71	-2.87 ± 13.90	-2.55 ± 8.57
21N/15E-9Q3	8/25/64	-1.16 ±	-0.11 ±	9.62 ± 9.41	-2.22 ± ---
BUTTE COUNTY (5-21.03)					
17N/1E-1R1	8/ 5/64	0.43 ± 2.80	0.45 ± 0.64	4.50 ± 10.67	-2.75 ± ---
17N/2E-2D1		0.39 ± 1.33	-0.26 ±	3.99 ± 10.09	-3.36 ± ---



TABLE E-2

## RADIOASSAYS OF GROUND WATER

1964

Well Number	Date Sampled	Micromicrocuries per liter			
		Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
BUTTE COUNTY (5-21.03) - Continued					
17N-3E-4D1		0.84 ± 1.55	-0.07 ± ---	-2.31 ± ---	9.38 ± 8.96
17N/3E-18Q1		9.03 ± 5.44	-0.20 ± ---	-0.56 ± ---	7.12 ± 9.41
17N/4E-20P	8/ 3/64	-1.02 ± ---	0.22 ± 0.49	6.01 ± 14.67	-3.25 ± ---
18N/1E-14R1	8/ 3/64	-1.23 ± ---	-0.15 ± ---	3.66 ± 10.46	-3.65 ± ---
18N/2E-12B1		-0.12 ± ---	-0.07 ± ---	-2.94 ± ---	-1.68 ± ---
18N/3E-16P2		1.11 ± 2.78	-0.26 ± ---	2.61 ± 10.15	5.48 ± 8.89
18N/4E-21P1	8/18/64	-0.30 ± ---	0.86 ± 1.03	0.45 ± 10.41	-9.62 ± ---
18N/4E-28M	8/18/64	3.16 ± 4.54	0.04 ± 0.52	10.00 ± 26.47	-8.45 ± ---
19N/2E-16R1	8/ 3/64	0.00 ± ---	-0.11 ± ---	0.90 ± 9.58	1.57 ± 8.16
19N/4E-6P1	9/ 8/64	-0.49 ± ---	-0.56 ± ---	-5.67 ± ---	-0.81 ± ---
20N/1E-4H	8/21/64	-1.30 ± ---	-0.33 ± ---	5.66 ± 10.79	-5.42 ± ---
20N/2E-29R1	10/24/64	0.00 ± ---	0.22 ± 0.73	-8.30 ± ---	2.33 ± 7.70
20N/3E-15H1	9/10/64	0.49 ± 1.08	0.04 ± 0.81	-1.40 ± ---	-5.70 ± ---

## RADIOASSAYS OF GROUND WATER

1964

Well Number	Date Sampled	Micromicrocuries per liter			
		Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
BUTTE COUNTY (5-21.03) - Continued					
21N/1W-26Q1	9/25/64	-0.93 ±	-0.56 ±	-21.11 ±	-9.36 ±
21N/2E-30C1	9/29/64	-0.55 ±	-0.52 ±	-7.06 ±	1.54 ±
21N/3E-10Q1	9/ 8/64	-0.41 ±	0.18 ±	0.28 ±	-21.18 ±
22N/1E-9M1	9/25/64	-0.80 ±	-0.37 ±	-8.06 ±	-2.27 ±
22N/2E-18J1	9/ 8/64	0.38 ±	0.30 ±	0.85 ±	1.25 ±
23N/1W-9L1	9/27/64	-0.44 ±	-0.37 ±	-9.05 ±	-5.16 ±
23N/1E-32K1	9/27/64	-0.05 ±	-0.41 ±	-4.93 ±	3.28 ±
SAN JOAQUIN VALLEY (5-22.00)					
2S/5E/22Q1	6/4/64	2.42 ±	-0.51 ±	-3.35 ±	-11.85 ±



TABLE E-2

## RADIOASSAYS OF GROUND WATER

1964

Well Number	Date Sampled	Micromicrocuries per liter			
		Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
LAHONTAN REGION (NO. 6)					
SOUTH TAHOE VALLEY (6-5.01)					
12N/18E-3A1	9/16/64	0.00 + -	0.26 + - 0.88	0.00 + -	0.00 + - - -
12N/18E-3C1	9/16/64	2.06 + - 1.46	0.86 + - 0.89	3.12 + -	8.21 + - 8.89
12N/18E-3F1	9/16/64	0.24 + - 2.62	2.19 + - 1.25	19.70 + -	9.81 + - 0.00 + - - -
12N/18E-3J1	9/16/64	0.04 + - 0.09	0.00 + - - -	-0.64 + -	3.22 + - 38.00 + - 4.69
12N/18E-5L1	9/16/64	0.14 + - 0.62	0.15 + - 0.40	-1.62 + -	- - - + - 3.97 + - 8.29
12N/18E-5P1	9/16/64	0.73 + - 1.05	-0.11 + - - -	3.26 + -	9.00 + - -1.71 + - - -
CARSON VALLEY (6-6.00)					
11N/19E-24B1	9/16/64	-0.53 + - - -	0.04 + - 0.63	-1.72 + -	- - - + - 0.43 + - 7.70
11N/19E-35D2	9/16/64	0.84 + - 1.28	-0.11 + - - -	-4.03 + -	- - - + - 0.79 + - 8.87
11N/19E-35K1	9/16/64	0.29 + - 1.07	0.00 + - - -	0.00 + -	- - - + - 0.23 + - 7.70
11N/20E-7M1	9/16/64	-0.63 + - - -	-0.63 + - - -	-2.27 + -	- - - + - -4.61 + - - -

TABLE E-2

## RADIOASSAYS OF GROUND WATER

1964

Well Number	Date Sampled	Micromicrocuries per liter			
		Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
TOPAZ VALLEY (6-7.00)					
8N/23E-16P1	9/17/64	17.28 ± 5.39	-0.17 ± 0.43	-1.28 ± 12.94	8.45 ± 8.65
8N/23E-28E3	9/17/64	7.20 ± 3.27	0.04 ± 0.73	0.00 ± ---	4.40 ± 8.96
8N/23E-29C2	9/17/64	0.86 ± 1.55	-0.51 ± 0.47	-9.33 ± 10.94	-3.74 ± 7.60
9N/22E-24D1	9/17/64	-0.16 ± ---	0.26 ± 0.89	6.68 ± 10.01	-2.59 ± ---
9N/22E-24M1	9/17/64	-0.35 ± 1.15	0.42 ± 0.80	14.25 ± 11.88	7.99 ± 8.69
9N/23E-20P1	9/17/64	2.45 ± 1.86	0.16 ± 0.81	12.74 ± 10.74	-5.41 ± 8.51
9N/23E-30C2	9/17/64	0.06 ± 1.22	-0.32 ± 0.61	1.99 ± 11.38	-2.88 ± 7.60
9N/23E-32A1	9/17/64	6.60 ± 3.44	0.43 ± 0.90	10.50 ± 11.37	-6.03 ± 8.54
BRIDGEPORT VALLEY (6-8.00)					
4N/24E-4A1	9/18/64	0.58 ± 2.65	-0.22 ± 0.44	22.79 ± 15.64	-1.30 ± 8.61
4N/24E-13F1	9/18/64	0.80 ± 1.57	-0.38 ± 0.97	4.01 ± 10.21	-5.49 ± 10.71
4N/25E-4B1	9/18/64	2.10 ± 4.21	0.22 ± 0.63	9.00 ± 12.60	-2.70 ± ---



TABLE E-2

## RADIOASSAYS OF GROUND WATER

1964

Well Number	Date Sampled	Micromicrocuries per liter			
		Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
BRIDGEPORT VALLEY (6-8.00) - Continued					
4N/25E-4F1	9/18/64	0.38 ± 2.15	0.56 ± 0.89	7.58 ± 10.56	7.93 ± 8.81
5N/24E-25G1	9/18/64	-1.15 ± ---	0.22 ± 0.89	1.41 ± 9.64	3.83 ± 7.82
5N/25E-28K1	9/18/64	7.94 ± 4.29	-0.37 ± ---	-2.48 ± ---	1.77 ± 8.53
5N/25E-28Q1	9/18/64	2.42 ± 2.35	0.33 ± 0.89	-1.50 ± ---	4.17 ± 8.82

TABLE E-3

TRACE ELEMENT ANALYSES OF GROUND WATER  
1964

State Well Number (MDB & M)	Date Sampled	Constituents in parts per million						
		Alumi- num	Arsenic	Copper	Iron (total)	Lead	Manga- nese	Zinc
<u>REDDING BASIN (5-6)</u>								
29N/4W-2M1	8-25-64	0.06	0.00	0.00	0.00	0.01	0.00	0.01
30N/3W-4M1	8-25-64	0.08	0.00	0.00	0.00	0.00	0.00	0.10
30N/3W-34D1	8-25-64	0.00	0.00	0.00	0.01	0.00	0.00	0.04
30N/4W-1E1	8-26-64	0.08	0.00	0.00	0.00	0.00	0.00	0.01
30N/4W-16H2	8-25-64	0.03	0.00	0.00	0.00	0.00	0.00	0.02
30N/5W-15R1	8-25-64	0.01	0.00	0.00	0.14	0.00	0.00	0.05
30N/5W-17R1	8-25-64	0.00	0.00	0.02	0.00	0.00	0.00	0.22
31N/3W-7K1	8-25-64	0.01	0.00	0.00	0.02	0.00	0.00	0.00
31N/3W-12E1	8-25-64	0.00	0.00	0.00	0.01	0.01	0.00	0.02
31N/4W-7A1	8-26-64	0.00	0.01	0.00	0.06	0.00	0.00	0.06
31N/4W-15B1	8-26-64	0.00	0.00	0.00	0.13	0.00	0.00	0.08
31N/4W-16Q1	8-26-64	0.00	0.00	0.00	0.07	0.00	0.00	0.01
31N/5W-13D1	8-25-64	0.01	0.00	0.02	0.09	0.00	0.00	0.05
31N/5W-25K1	8-25-64	0.02	0.00	0.00	0.67	0.00	0.00	0.07
32N/3W-17E2	8-26-64	0.00	0.00	0.02	0.48	0.00	0.00	0.02
32N/3W-20P1	8-26-64	0.15	0.00	0.00	0.58	0.00	0.00	0.11
32N/3W-32J2	8-26-64	0.00	0.00	0.00	0.00	0.00	0.00	0.03
32N/3W-35C1	8-25-64	0.01	0.00	0.00	0.00	0.00	0.00	0.02
32N/4W-14F2	8-26-64	0.31	0.01	0.00	3.2	0.00	0.00	0.18
32N/4W-34P1	8-26-64	0.02	0.00	0.00	0.22	0.01	0.00	0.06
32N/5W-26M1	8-26-64	0.00	0.00	0.00	0.00	0.00	0.00	0.03



TABLE E-3

TRACE ELEMENT ANALYSES OF GROUND WATER  
1964

State Well Number (MDB&M)	Date Sampled	Constituents in parts per million						
		Alumi- num	Arsenic	Copper	Iron (total)	Lead	Manga- nese	Zinc

CENTRAL VALLEY REGION (NO. 5)LAKE ALMANOR VALLEY (5-7)

28N/7E-5L1	8/19/64	0.01	0.00	0.01	0.01	0.00	0.00	0.27
28N/7E-5N1	8/19/64	0.03	0.01	0.00	0.89	0.00	0.00	0.21
28N/7E-7A1	8/19/64	0.01	0.01	0.01	0.07	0.00	0.00	0.10
28N/7E-7H1	8/19/64	0.10	0.00	0.00	0.18	0.00	0.00	1.7
28N/7E-18B1	8/19/64	0.07	0.00	0.01	2.3	0.00	0.01	0.47
28N/7E-18D1	8/19/64	0.02	0.00	0.00	0.01	0.00	0.00	0.99
28N/7E-18M1	8/19/64	0.00	0.01	0.00	0.01	0.00	0.00	0.70

INDIAN VALLEY (5-9)

27N/9E-35P1	8/19/64	0.01	0.00	0.01	0.10	0.00	0.00	0.33
26N/10E-4E1	8/19/64	0.05	0.00	0.00	2.5	0.01	0.00	0.92
26N/10E-6E1	8/19/64	0.65	0.01	0.04	6.3	0.06	0.00	0.37
26N/10E-16P1	8/19/64	0.04	0.01	0.00	1.3	0.00	0.01	0.02
26N/10E-18M1	8/19/64	0.04	0.00	0.00	0.10	0.00	0.00	0.55
26N/10E-23A1	8/19/64	0.02	0.00	0.02	0.09	0.02	0.00	3.5
26N/10E-27R1	8/19/64	0.00	0.00	0.00	0.03	0.00	0.00	0.10
26N/10E-28M1	8/19/64	0.02	0.00	0.00	0.01	0.00	0.00	0.00
26N/10E-30F1	8/19/64	0.09	0.01	0.00	0.02	0.00	0.00	0.00

TABLE E-3

TRACE ELEMENT ANALYSES OF GROUND WATER  
1964

State Well Number (MDB&M)	Date Sampled	Constituents in parts per million						
		Alumi- num	Arsenic	Copper	Iron (total)	Lead	Manga- nese	Zinc

AMERICAN VALLEY (5-10)

24N/9E-2A1	8/20/64	0.08	0.01	0.00	8.9	0.00	0.00	0.82
24N/9E-10H1	8/20/64	0.02	0.00	0.00	0.90	0.00	0.00	0.01
24N/9E-10L1	8/20/64	0.15	0.00	0.00	0.06	0.00	0.00	0.07
24N/9E-16H1	8/20/64	0.02	0.00	0.00	0.31	0.00	0.00	0.34
24N/10E-6N1	8/20/64	0.00	0.00	0.00	0.06	0.00	0.00	0.20
24N/10E-8L1	8/20/64	0.00	0.00	0.00	1.0	0.01	0.00	1.9
24N/10E-18D1	8/20/64	0.00	0.00	0.01	0.12	0.00	0.00	1.1
24N/10E-19B1	8/20/64	0.00	0.00	0.03	0.27	0.00	0.00	1.7
24N/10E-19D1	8/20/64	0.01	0.00	0.00	0.20	0.00	0.00	2.9
24N/10E-20D1	8/20/64	0.01	0.00	0.10	0.02	0.00	0.00	0.04

HIGH VALLEY (5-16)

14N/8W-23K1	6/ 3/64	0.04	0.00	0.02	1.2	0.00	0.33	0.09
14N/8W-24B2	6/ 3/64	0.22	0.00	0.00	1.4	0.00	0.00	0.02
14N/8W-24L1	6/ 3/64	0.22	0.00	0.00	27	0.00	0.00	0.03

BURNS VALLEY (5-17)

13N/7W-15N1	6/ 2/64	0.06	0.00	0.00	0.16	0.00	0.00	0.28
13N/7W-21B1	6/ 2/64	0.08	0.00	0.02	0.67	0.01	0.00	0.97
13N/7W-21H1	6/ 2/64	0.09	0.00	0.00	10.	0.00	0.00	0.01
13N/7W-21J1	6/ 2/64	0.05	0.00	0.00	1.8	0.00	0.00	2.2
13N/7W-22B2	6/ 3/64	0.13	0.00	0.00	0.03	0.00	0.00	0.11



TABLE E-3  
TRACE ELEMENT ANALYSES OF GROUND WATER  
1964

State Well Number (MDB & M)	Date Sampled	Constituents in parts per million						
		Alumi- num	Arsenic	Copper	Iron (total)	Lead	Manga- nese	Zinc
<u>SACRAMENTO VALLEY (5-21)</u>								
<u>COLUSA COUNTY</u>								
13N/1E-22J1	6-16-64	0.00	0.00	0.00	0.00	0.00	0.03	0.09
13N/1W-7A1	5-28-64	0.01	0.00	0.00	0.08	0.00	0.00	0.36
13N/1W-8B1	5-28-64	0.05	0.00	0.00	0.12	0.00	0.00	0.00
13N/1W-15R2	5-28-64	0.00	0.02	0.01	0.09	0.00	0.01	0.03
13N/1W-36Q2	6-16-64	0.00	0.01	0.00	0.01	0.00	0.00	0.13
13N/2W-10R1	5-28-64	0.02	0.00	0.00	0.01	0.00	0.00	0.00
13N/2W-15D1	5-28-64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13N/2W-22G1	5-28-64	0.12	0.00	0.00	1.9	0.01	0.00	0.59
13N/2W-29R1	5-28-64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14N/1E-18A1	6-16-64	1.1	0.00	0.04	1.3	0.01	0.05	0.08
14N/1W-2D1	6-16-64	0.00	0.01	0.00	0.12	0.00	0.32	0.01
14N/1W-12A1	6-16-64	0.02	0.02	0.00	0.02	0.00	0.02	0.00
14N/1W-31Q1	5-28-64	0.10	0.00	0.00	0.18	0.02	0.00	0.01
14N/2W-29J1	5-28-64	0.64	0.00	0.02	0.71	0.01	0.12	0.04
14N/2W-35P1	5-28-64	0.01	0.00	0.00	0.04	0.01	0.00	0.00
15N/2W-32R1	5-28-64	0.01	0.00	0.00	0.01	0.00	0.00	0.05
15N/4W-25P1	5-28-64	0.03	0.00	0.00	0.19	0.03	0.00	2.6
16N/1W-29J1	5-28-64	0.00	0.01	0.00	0.17	0.00	0.09	0.02
16N/2W-4H1	5-28-64	0.00	0.01	0.00	0.03	0.00	0.00	0.02
16N/2W-35B1	5-28-64	0.01	0.02	0.00	0.13	0.01	0.01	0.04
16N/3W-9N1	5-28-64	0.00	0.02	0.00	0.01	0.00	0.00	0.85
17N/1W-6R1	6-16-64	0.00	0.02	0.00	0.07	0.00	0.15	0.01

TABLE E-3

TRACE ELEMENT ANALYSES OF GROUND WATER  
1964

State Well Number (MDB & M)	Date Sampled	Constituents in parts per million						
		Alumi- num	Arsenic	Copper	Iron (total)	Lead	Manga- nese	Zinc

COLUSA COUNTY (cont.)

17N/2W-12C1	5-28-64	0.00	0.01	0.00	0.10	0.00	0.00	0.02
17N/3W-33R1	5-28-64	0.00	0.02	0.00	0.02	0.00	0.00	0.02





















THIS BOOK IS DUE ON THE LAST DATE  
STAMPED BELOW

APR 11 '83

RENEWED BOOKS ARE SUBJECT TO IMMEDIATE  
RECALL

JUN 5 1974

JUN 5 1975

JUN 4 REC'D

JUN 18 1982

RECEIVED

JUN 22 1982

JUL 4 1985

RECEIVED

JUN 25 1985

PHYS SCI LIBRARY

LIBRARY, UNIVERSITY OF CALIFORNIA, DAVIS

Book Slip-25m-6,'66 (G3855s4) 458



Nº 482509

California. Dept.  
of Water Resources.  
Bulletin.

PHYSICAL  
SCIENCES  
LIBRARY

TC824  
C2  
A2  
no.130:64  
v.2  
appx.D-E  
c.2

LIBRARY  
UNIVERSITY OF CALIFORNIA  
DAVIS



3 1175 00662 3196

Call Number:

482509

California. Dept.  
of Water Resources.  
Bulletin.

TC824  
C2  
A2  
no.130:64  
v.2



